



# National Library of Medicine

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Bethesda, Md.



U. S. Department of Health,  
Education, and Welfare

PUBLIC HEALTH SERVICE







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# MEDLARS TRAINING PROGRAM

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## Indexing Training Syllabus

NATIONAL LIBRARY OF MEDICINE

Bibliographic Services Division

Index Section

1969



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MEDLARS TRAINING PROGRAM  
INDEXING TRAINING SYLLABUS

by  
Thelma Charen  
,, ,

NATIONAL LIBRARY OF MEDICINE  
Index Section BSD  
1969



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County of Santa Clara  
California 950

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## PREFACE

This syllabus is meant to supplement the Indexing Training Lectures of the MEDLARS Analyst Training Program.

It is not designed as a substitute for either the lectures or for the Indexing Manual.

This syllabus is intended primarily as a workbook for the use of MEDLARS Analysts training in the Index Section at the National Library of Medicine.



# INDEX MEDICUS

## Training Course

### READING ASSIGNMENTS

The three reading assignments are the Indexing Manual, Technical Notes and Technical Supplements. They are compulsory and should be completed within the first five weeks of your stay in Index Section. Specific work assignments for class and for indexing, however, take precedence over the reading assignments.

When you begin indexing, please devote at least an hour a day to the reading of the Indexing Manual. It will be recorded on your daily statistical sheet as MANUAL, with the number of hours spent on reading it on the given date. This must be so credited as not to confuse actual indexing statistics.

Do not attempt to memorize rules at this reading of either the manual or the technical bulletins. Both were designed as reference tools. Many of the rules and examples in the manual are repetitive and will be committed to memory easily through use and familiarity. Do not memorize the instructions at this time: merely read to familiarize yourself with their general scope and coverage.








# MEDLARS TRAINING SCHEDULE

Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L



-  - Indexing
-  - Searching
-  - Lectures





## MEDLARS Training Schedule

### Index Section

Lecture I	INDEX MEDICUS history Indexing workflow List of Journals Indexed Authority lists IM and NIM rationale Depth and Non-Depth rationale
Lecture II	Medical Subject Headings (MeSH)
Lecture III	Data Form
Lecture IV	Subheadings
Lecture V	References and tools Indexing Manual
Lecture VI	Indexing policy by category and subject field
Lecture VII	Indexing policy by category and subject field
Lecture VIII	Indexing policy by category and subject field
Lecture IX	Demonstration of the indexing of an article
Lecture X	Philosophy of the indexing operation



## INTRODUCTION

- I. MEDLARS: definition, purpose and scope (See MEDLARS 1963-1967)
- II. Brief history of the National Library of Medicine
- III. Definition and scope of INDEX MEDICUS and CUMULATED INDEX MEDICUS
- IV. Brief history of their origins (See Chronology, p. 2)
  - △ Index-Catalogue
  - △ Current List of Medical Literature (CLML)
  - △ AMA's Quarterly Cumulative Index Medicus (QCIM)
  - △ Index Medicus (IM)
  - △ Cumulated Index Medicus (CIM)
- V. Derivative publications of INDEX MEDICUS (See p. 5)
- VI. Indexing: definition
- VII. Types of indexing: (See pp. 6-7)
  - △ by professional indexers
  - △ by publishers
  - △ by authors
- VIII. Limitations of MEDLARS (See p. 8)



## CHRONOLOGY

Names

- 1865 Army Medical Library  
1952 Armed Forces Medical Library  
1956 National Library of Medicine

Publications

- 1865 Army Medical Library founded by Col. John Shaw Billings  
1876 Specimen Fasciculus of the Index-Catalogue published  
1879 Index Medicus (a monthly publication), volume 1, published  
1880 Index-Catalogue of the Library of the Surgeon General's Office, United States Army, (an annual publication), volume 1, published  
1916 Quarterly Cumulative Index to Current Literature published by the American Medical Association  
1927 Index Medicus combines with QCI to form Quarterly Cumulative Index Medicus; published by the American Medical Association  
1941 Current List of Medical Literature published as a weekly by the Friends of the Army Medical Library  
1942 CLML published jointly by the Friends and the Medical Library Association  
1945 CLML published by the Army Medical Library  
1950 CLML becomes a monthly  
1955 Index-Catalogue ceases publication with the Mh-Mn volume in the middle of the 4th series (see below 1959)  
1956 QCIM ceases publication





- 1959 Index-Catalogue 5th series published listing monographs only, to complete entries from Mo through Z remaining after cessation as above (1955)
- 1960 CLML becomes Index Medicus, a monthly publication of NLM
- 1961- Cumulated Index Medicus published by AMA as annual cumu-  
1964 lations
- 1965- Cumulated Index Medicus published by NLM as annual cumu-  
present lation

### Authority Lists

CLML:	1941-1949	ad lib or Index-Catalogue usage
	1950-1953	QCIM's authority list
	1954-1959	SHAL: the Library's Subject Heading Authority List
Index Medicus:	1960-1962	MeSH: Medical Subject Headings, 1st ed.
MEDLARS:	1963	MeSH 2d ed.
	1964	MeSH 3d ed.
	1965	MeSH
	1966	MeSH
	1967	MeSH
	1968	MeSH

### Subheadings

1950-1959	CLML	Subheadings
1960-1962	Index Medicus	Subheadings
1963-1965	MEDLARS	No Subheadings
1966-	MEDLARS	Subheadings

### Production

CLML:	1950-1959	3x5 cards hand typed on IBM executive typewriters and hand-pasted onto mounting boards; reduced to standard size by photo-offset
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Index Medicus: 1960-1962 IBM cards typed on Friden Justowriters; photographed by Listomatic camera

MEDLARS: 1963- Friden Justowriters; punched paper tape; produced by high-speed printer GRAPHIC Arts Composing Equipment (GRACE)

Index-Catalogue

1st series	1880-1895	16 vol	Monographs & periodicals
2d series	1896-1916	21 vol	Monographs & periodicals
3d series	1918-1932	10 vol	Monographs & periodicals
4th series	1936-1948 (M-Mez) 1955 (Mh-Mn)	11 vol	Monographs & periodicals
5th series	1959 (Authors & Titles) 1961 (Subjects A-M) 1961 (Subjects N-Z)	3 vol	Monographs only





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## NATIONAL LIBRARY OF MEDICINE RECURRING BIBLIOGRAPHIES

*The National Library of Medicine, through its computer-based MEDLARS (Medical Literature Analysis and Retrieval System), periodically produces lists of citations to journal articles in specialized biomedical fields. Most of these lists, termed "Recurring Bibliographies," are printed and distributed by nonprofit professional organizations and other government agencies with whom the Library cooperates.*

- (1) The *Bibliography on Medical Education* is published monthly in the *Journal of Medical Education* (\$15). Cumulations for 1964-65, 1966, and 1967 are available from the American Association of Medical Colleges, 2350 Ridge Avenue, Evanston, Illinois 60201, for \$2.00 each.
- (2) The quarterly *Cerebrovascular Bibliography* is available on request from the Executive Secretary, Joint Council Subcommittee on Cerebrovascular Disease, National Institute of Neurological Diseases and Blindness, National Institutes of Health, Bethesda, Maryland 20014.
- (3) The monthly bibliography, *Fibrinolysis, Thrombolysis, and Blood Clotting*, is available on request from Dr. James M. Stengle, Committee on Thrombolytic Agents, National Heart Institute, National Institutes of Health, Bethesda, Maryland 20014.
- (4) The monthly *Index of Rheumatology* is available from the American Rheumatism Association, 1212 Avenue of the Americas, New York, New York 10036. Price: \$6 per year.
- (5) The quarterly *Index to Dental Literature* is sold by the American Dental Association, 211 East Chicago Street, Chicago, Illinois 60611. Price: \$20 for four issues, \$10 annual cumulation alone.
- (6) The *International Nursing Index* is sold by the American Journal of Nursing Company, 10 Columbus Circle, New York, New York 10019. Price: \$15 for four quarterly issues; \$12.50 for annual cumulations.
- (7) The quarterly *Artificial Kidney Bibliography* is made available, without cost, to National Institute of Health grantees, to contractors in the Institute's Artificial Kidney Program, and, upon request, to other qualified interested investigators and practitioners working in areas closely related to the artificial kidney. Address requests to the Scientific Communications Officer, Na-

tional Institute of Arthritis and Metabolic Diseases, National Institutes of Health, Bethesda, Maryland 20014.

(8) The bimonthly *Endocrinology Index* is published by the National Institute of Arthritis and Metabolic Diseases. For information write to the Scientific Communications Officer, National Institute of Arthritis and Metabolic Diseases, National Institutes of Health, Bethesda, Maryland 20014.

(9) The *Bibliography of Surgery of the Hand*, a quarterly, is published and distributed by the American Society for Surgery of the Hand. For information write to John P. Adams, M.D., Chairman, American Society for Surgery of the Hand, 2520 L Street, N.W., Washington, D.C. 20037.

(10) The *Anesthesiology Bibliography*, a bimonthly, is published and distributed by the American Society of Anesthesiologists. For information write: Wood Library, Museum of Anesthesiology, American Society of Anesthesiologists, 515 Busse Highway, Park Ridge, Illinois 60068.

(11) The quarterly *Toxicity Bibliography* is published by the National Library of Medicine and distributed by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Price: \$9.00 per year (\$11.25 foreign); single issues, \$2.25.

(12) The *Current Bibliography of Epidemiology* (CuBE), a monthly, is published by the American Public Health Association. Price \$35.00 for 12 monthly issues and annual cumulation. To subscribe or to obtain further information write: Editor: CuBE, American Public Health Association, 1740 Broadway, New York, New York 10019.

(13) The *Neurosurgical Biblio-Index*, a quarterly, is published by the American Association of Neurological Surgeons. For information write: Editor, *Journal of Neurosurgery*, Dartmouth, Hanover, New Hampshire 03755.





# Kinetics of intestinal active transport of five neutral amino acids

D. M. MATTHEWS<sup>1</sup> AND LEONARD LASTER

Gastroenterology Unit, National Institute of Arthritis and Musculoskeletal Diseases, National Institutes of Health, Bethesda, Maryland

MATTHEWS, D. M., AND LEONARD LASTER. *Kinetics of intestinal active transport of five neutral amino acids*. Am. J. Physiol. 208(4): 593-600. 1965.—Rates of transport against a concentration gradient by everted segments of hamster small intestine were determined for five monoaminomonocarboxylic acids. Values varied considerably from animal to animal. A graph of reciprocal of transport rate as a function of reciprocal of initial amino acid concentration revealed a linear relationship for each amino acid. Values for  $K_t$ , the concentration at which half-maximal transport is observed, diminished with increasing length of side chain for glycine, L-alanine, L-valine, and L-leucine. The  $K_t$  for  $\alpha$ -aminoisobutyric acid was much higher than the others. Values for  $V_{max}$ , the apparent limiting transport rate, decreased as chain length increased. With increasing initial amino acid concentration transport rate rose to a maximum and then declined. At concentrations producing this decline no gross mucosal damage was noted. The apparent inhibitory effect of these high concentrations was not a permanent one.

intestinal absorption	small intestine	hamster
water transport	glycine	L-alanine
L-valine	$\alpha$ -aminoisobutyric acid	L-leucine

KRATZER (14) AND WISEMAN (33, 34) could find no definite relationship between the rates of intestinal transport of amino acids and their chemical structure, but Finch and Hird (8, 9), studying uptake by the intestinal wall, found that the rate of uptake of monoaminomonocarboxylic amino acids was related to the length of the side chain, and as a result it has been suggested that the affinity of these amino acids for the intestinal transport mechanism is determined by the lipophilic properties of this chain (9, 16, 29). This paper describes a reinvestigation of the problem in which the kinetics of intestinal transport against a concentration gradient of a series of monoaminomonocarboxylic amino acids was

using everted segments of hamster small intestine. It is shown that for each of the amino acids studied an increase in the initial concentration results in a hyperbolic increase in the rate of transport until a limiting rate is attained, the magnitude of this limiting rate, and the concentration of amino acid required to achieve it, varying with the properties of the side chain, and suggest reasonable failure to demonstrate this relationship in previous work. In addition, data were obtained on the reliability of transport measurements, the site of intestinal transport of the amino acids, and the relation of amino acid transport to water transport. The main technique used was that of Crane and Crane (19) which permits repeated sampling of the contents of the inside of the intestinal segment. This enables one to study transport during a period when the concentration of amino acid in the serosal fluid is increasing or decreasing. The technique also permits changing of serosal and mucosal fluids so that conditions can be changed during the course of an experiment with an everted intestinal segment. This was a considerable advantage in a companion study on the relationship between intestinal structure and competition for transport (19).

## METHODS AND MATERIALS

**Transport studies.** Male golden hamsters, fed and weighing between 70 and 120 g, were killed by decapitation on the head and the small intestine mucosa was exposed several times in situ with warm Krebs-Ringer solution. The intestine was stripped away from the mesentery and everted. A segment, about 1 cm long, was

American Journal  
of Physiology  
April 1965





## AUTHOR INDEXING

The following journals give key words or author's suggestions for indexing terms:

American Journal of Applied Physiology

American Journal of Physiology

Calcified Tissue Research

Circulation

Circulation Research

European Journal of Pharmacology

Experimental Parasitology

Japanese Heart Journal

Journal of Lipid Research

Journal of Pharmaceutical Sciences

Pediatric Research

Psychophysiology

Scandinavian Journal of Clinical & Laboratory  
Investigation

Scandinavian Journal of Gastroenterology \*

Survey of Ophthalmology

\* Requires MeSH terms



MEDLARS Limitations  
in  
Literature  
Analysis

The following concepts are at present not able to be indexed or retrieved with precision in MEDLARS:

1. any degree or quality or quantity
2. relationships not expressed by coordinations of two or more main headings, by a main heading with a subheading, by a main heading with a check tag
3. degrees of adverse effects
4. degrees of beneficial effects
5. more or less
6. before or after or how far along
7. early or late
8. often, recurrent or seldom
9. primary or secondary
10. major or minor
11. above or below
12. surgical approach
13. partial or total
14. dosage or amount





## BIBLIOGRAPHIC SERVICES DIVISION

### Organization

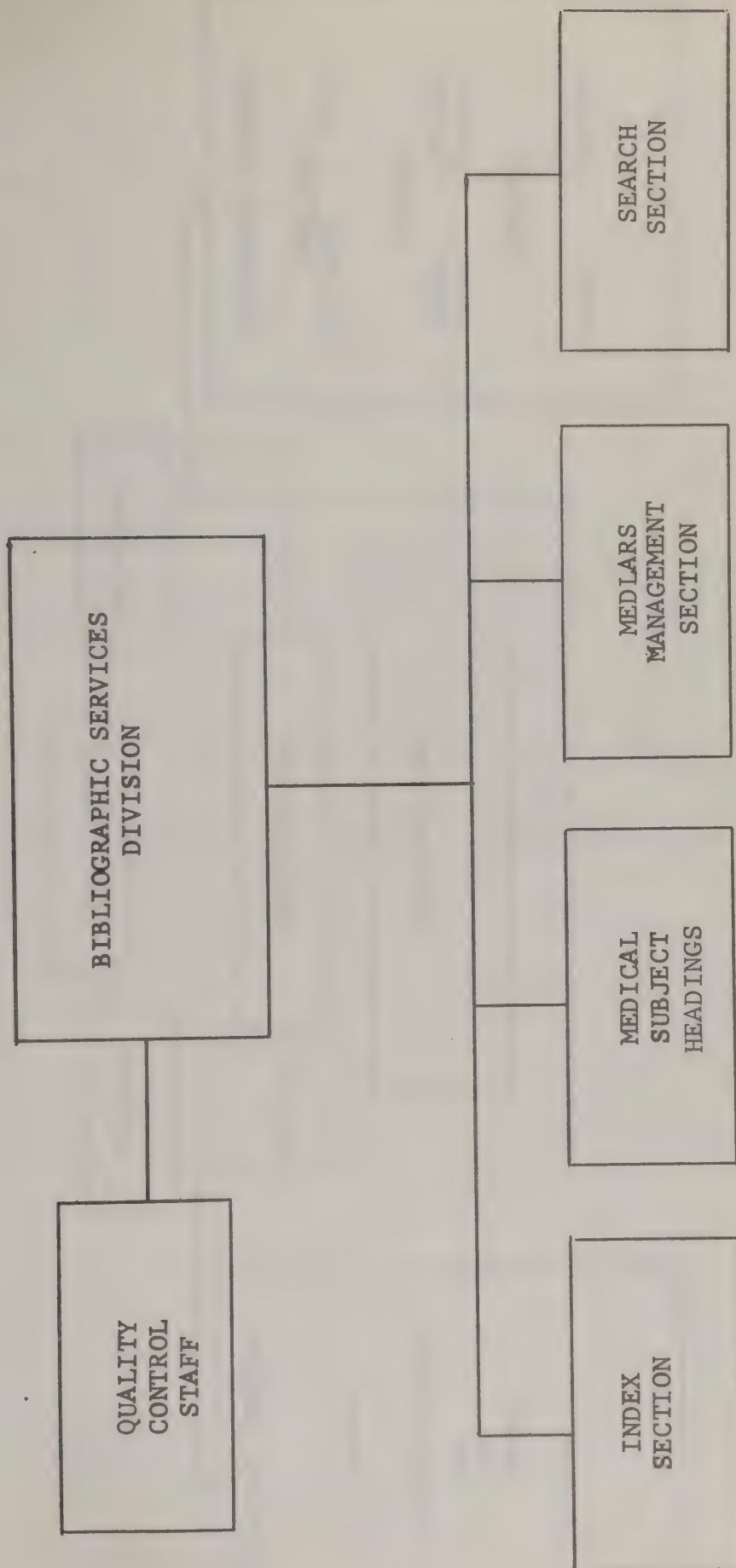
A motion picture, lantern-slide lecture and tour of the National Library of Medicine will give an over-all view of the Library, its divisions and functions. These will be scheduled at the convenience of the class on various afternoons during the two-week indexing training period.

- I. Administrative organization of Bibliographic Services Division (See p. 10)
- II. Work flow in BSD Index Section (See p.11)
- III. Personnel of BSD and their activities
- IV. Personnel of Index Section and their activities



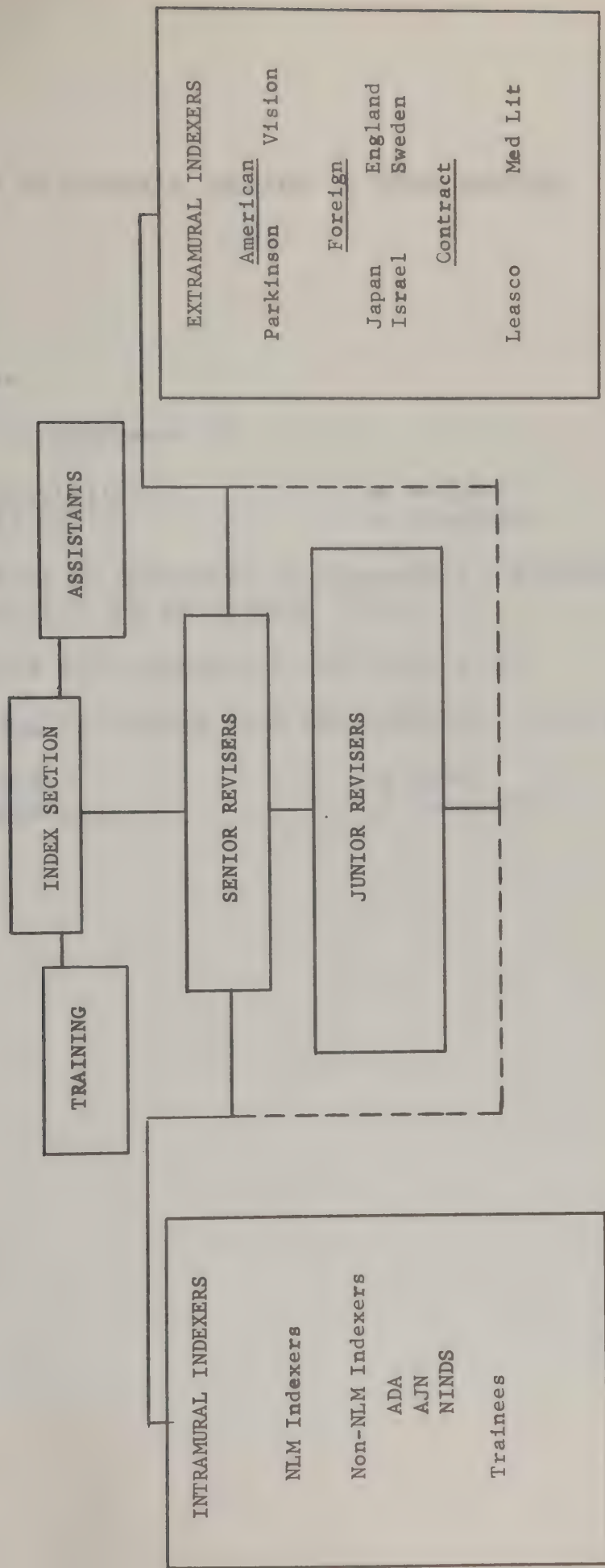
BSD REORGANIZATION EFFECTIVE JULY 15, 1968

(Per AD-LO memo  
of July 17,  
1968)



Administrative Organization





# W O R K F L O W





LIST OF JOURNALS INDEXED IN INDEX MEDICUS  
(LJI)

I. Purpose

II. Parts: arrangement by

▲ abbreviation

▲ subject

▲ full title

▲ geography

III. Committee on Selection of Literature for MEDLARS:  
function and activities (See p. 13)

IV. Criteria for inclusion in LJI (See p. 14)

V. Indexing directions from the Committee: (See p. 15)

▲ Depth

▲ Rush

▲ Non-Depth

▲ Selective



LIST OF JOURNALS INDEXED IN INDEX MEDICUS

Committee on Selection of Literature for MEDLARS

As of Spring 1969

Dr. William B. Bean - Editor, Archives of Internal Medicine, Chairman

Mr. William K. Beatty - Librarian, Northwestern University Medical  
School

Mr. Harold Bloomquist - Librarian, Francis A. Countway Library of  
Medicine

Dr. Morris Fishbein - Editor, Medical World News

Dr. Franz J. Ingelfinger - Editor, New England Journal of Medicine

Dr. John H. Talbott - Editor, Journal of the American Medical  
Association

Miss Myrl E. Ebert - Librarian, Division of Health Affairs, University  
of North Carolina



# List of Journals Indexed in Index Medicus

## INTRODUCTION

To aid in the selection of journals for *Index Medicus*, the National Library of Medicine established an advisory group in September 1964 known as the Ad Hoc Panel on Selection of Journals for *Index Medicus*. Using a number of criteria, and assisted by advice solicited from knowledgeable physicians, scientists, and medical librarians outside the library, this Panel has, since its initial meeting, recommended the deletion of 308 titles and the addition of 349 new titles. Among the criteria used for selection of titles were:

- (1) Sponsorship of the journal by a professional organization of recognized status in a given discipline or subject area.
- (2) Sponsorship by a national academy or a national institute.
- (3) Existence of an active editorial board consisting of knowledgeable and critical referees with high professional standing.
- (4) Regular contributions to a journal by leaders in the subjects to which the journal is addressed.
- (5) Strict adherence to an established format in presentation of methodology, tables, graphs, references, and other data.
- (6) Publication policy that prohibits promotional, parochial, or secular approaches in the journal.

Those familiar with *List of Journals Indexed* will notice the absence of the "r" designation, which was used to indicate titles not regularly indexed but scanned exclusively for review articles. In April 1965 the Library, on advice from the Panel, discontinued this practice; review articles are now selected only from titles regularly indexed in *Index Medicus*.

In keeping with a statement made in the January 1965 *Index Medicus* the Library no longer includes in *List of Journals Indexed* the titles of journals not actually indexed. This is another action of the Library which reflects a recommendation of the Panel on Selection.

The Library recognizes that choices, even with the best advice available, will not satisfy those journal editors and publishers whose titles are not included. Although it is the desire of the Library to index all of these journals, limitations of personnel and physical resources make it impossible at this time.

National Library of Medicine  
Bethesda, Maryland 20014  
January 1966

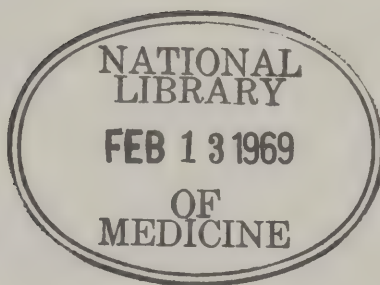
Reprint from the 1966 LJ  
giving criteria for  
inclusion in  
INDEX MEDICUS





## SAMPLE NLM JOURNAL STAMPS

## Standard Stamp



## INDEX MEDICUS Stamp

JTC:
INDEXER:
VOL-ISS:
DATE:
DEPTH:
NON-DEPTH:
RUSH:
SELECTIVE:



## AUTHORITY LISTS

- I. Definition and purpose of an authority list
- II. Synonyms: thesaurus, controlled vocabulary, standardized vocabulary
- III. History of authority lists at the National Library of Medicine (see p.

- ▲ QCIM
- ▲ SHAL
- ▲ MeSH 1960
- ▲ MeSH 1961-present

Because of the importance of MEDICAL SUBJECT HEADINGS (MeSH), an entire lecture will be devoted to its analysis in detail.

IV. Common features:

- ▲ Typography
- ▲ Main headings
- ▲ Cross-References
- ▲ Subheadings



80      *QUARTERLY CUMULATIVE INDEX MEDICUS—SUBJECT HEADINGS*

**BORDET-WASSERMANN REACTION:** See Wassermann  
Reaction

**BORNA DISEASE**

**BORNEOL**

**BORON COMPOUNDS\***

**BOTALLO'S DUCT:** See Ductus Arteriosus

**BOTANY**

history

**BOTHRIOCEPHALUS:** See Tapeworm; Tapeworm Infection

**BOTRYOMYCE**

**BOTRYOMYCOSIS HOMINIS:** See Granuloma pyogenicum

**BOTULISM\***

antiserum

clostridium

toxin

toxoid

**BOUGIES**

**BOUILLAUD'S DISEASE:** See Rheumatic Fever

**BOWEN'S DISEASE:** See Cancer, precancerous conditions

**BOY SCOUTS**

**BRACHIAL PLEXUS\***

See also Neuralgia, brachial; Paralysis, brachial

**BRADYCARDIA:** See Heart, rate

**BRAIN\***

See also Cerebellum; Corpus Callosum; Corpus Striatum; Dura Mater; Hypothalamus; Lenticular Nucleus; Medulla Oblongata; Meninges; Nervous System; Pons Varolii; Thalamus; etc.

abnormalities: See also Macrocephaly; Microcephaly

anemia

atrophy

blood supply: See also Aneurysm, cerebral; Arteries, cerebral; Arteriosclerosis, cerebral; Hemoencephalic Barrier; Thrombosis, cerebral; etc.

calcification

chemistry

compression: See also Cerebrospinal Fluid, pressure; Cranium, pressure in

concussion: See Brain, wounds and injuries

\* Use standard subheads on page 3





## EUSTACHIAN TUBE

x AUDITORY TUBE

*EUSTRONGYLUS GIGAS* *see*  
DIOCTOPHYMATOIDEA

## EUTHANASIA

x MERCY KILLING

## EVOLUTION

*EWING SARCOMA* *see* SARCOMA,  
EWING'S*EWING TUMOR* *see* SARCOMA,  
EWING'S

## EXANTHEMA SUBITUM

x ROSEOLA INFANTUM

## EXERCISE

*see also* ATHLETICS

xx ATHLETICS

## EXERCISE THERAPY

xx PHYSICAL THERAPY

## EXHIBITS

xx ART, MEDICAL

*EXODONTIA* *see* TEETH EXTRACTION*EXOPHTHALMIC GOITER* *see*  
HYPERTHYROIDISM

## EXOPHTHALMOS

## EXOSTOSES

*see also* OSTEOMA

xx OSTEOMA

## EXOSTOSES, MULTIPLE

x MULTIPLE EXOSTOSIS

## EXPECTORANTS

*see also* AMMONIUM CHLORIDE*see also* IODIDES*see also* IPECAC

x TERPIN HYDRATE

## EXPEDITIONS

## EXPLOSIONS

xx DISASTERS

*EXTRACELLULAR FLUIDS* *see* BODY  
FLUIDS

## EXTRAPYRAMIDAL TRACTS

## EXTREMITIES

*see also* ARM*see also* LEG



**see also** OCCUPATIONAL THERAPY

X GYMNASTICS, MEDICAL  
XX PHYSICAL THERAPY

## EXERTION

**see also** FATIGUE

X EFFORT  
X EXERCISE  
X PHYSICAL EFFORT  
X WORK

## EXHIBITS

XX MEDICAL ILLUSTRATION

## EXISTENTIALISM

XX PHILOSOPHY  
XX PSYCHOLOGY

Exodontia **see** TEETH EXTRACTION

Exophthalmic Goiter **see** HYPERTHYROIDISM

## EXOPHTHALMOS

XX OPHTHALMOLOGY

## EXOSTOSES

**see also** OSTEOMA

XX OSTEOMA

## EXPECTORANTS

**see also** AMMONIUM CHLORIDE

**see also** IODIDES

**see also** IPECAC

X TERPIN HYDRATE  
XX COUGH - therapy

## EXPEDITIONS

X VOYAGES  
XX TRAVEL

## EXPLOSIONS

**see also** BLAST INJURY

XX DISASTERS

Extracellular Fluid **see** BODY FLUIDS

## EXTRAPYRAMIDAL TRACTS

Extrasensory Perception **see** PARAPSYCHOLOGY

## EXTREMITIES

**see also** ARM

**see also** LEG

X LIMBS

Extremities, Artificial **see** ARTIFICIAL LIMBS

## EXUDATES AND TRANSUDATES

**see also** EDEMA

X TRANSUDATES  
XX EDEMA

## EYE



## IM AND NIM RATIONALE

### I. Synonyms

IM: INDEX MEDICUS  
Print

NIM: NON-INDEX MEDICUS  
Store

### II. Definitions

IM: a term destined to be printed  
in the published INDEX MEDICUS

NIM: a term destined for computer  
storage only

III. Availability: both IM and NIM entries are  
stored in the computer and are available  
for machine retrieval

### IV. Application

IM: represents the basic points of  
the article indexed

NIM: represents subjects discussed in  
the article but not necessarily  
the point of the article

represents broad aspects of spec-  
ific subjects acting as search  
parameters





V. Philosophical orientation in the indexing  
of medical literature

Primary orientation:

- |           |                        |
|-----------|------------------------|
| △ organ   | △ treatment            |
| △ disease | △ technic of diagnosis |
| △ cause   | or treatment           |

Secondary orientation: any premise leading to  
the understanding of disease and how  
to prevent or treat it

- △ organ function
- △ physiological process
- △ metabolism
- △ organisms
- △ chemicals
- △ drugs
- △ paramedical facets

VI. Parameters usually IM

- △ the point of the article
- △ organs
- △ diseases
- △ organisms
- △ chemicals
- △ therapies

VII. Parameters usually NIM

- △ data not the point of the article
- △ technics
- △ age of subjects
- △ sex of subjects
- △ animals studied experimentally

See p. 22

See Indexing Manual, Section 4: INDEX MEDICUS HEADINGS  
AND NON-INDEX MEDICUS HEADINGS; Section 13: CHOICE OF  
HEADINGS IN INDEXING; et passim



# PRINT (IM)

# STORE (NIM)

- |  |   |
|--|---|
| 1. The point of the article  | 1. Anything else important to research  |
| 2. Organs, diseases, causes, therapies, substances, physiological processes        | 2. Technics   |
| 3. Normal PREGNANCY or PREGNANCY COMPL. if the point of the article                | 3. PREGNANCY when you IM PREGNANCY COMPL. or a pregnancy-related concept          |
| 4. Normal INFANT, NEWBORN or INFANT, NEWBORN, DISEASES if the point of the article | 4. INFANT, NEWBORN when you IM INFANT, NEWBORN, DISEASES or one of its indentions |
| 5. Veterinary animals  | 5. Experimental animals   |
| 6. Pre-coordinated animal/disease heading  | 6. Animal if on Data Form   |
| 7. Organ, disease, physiological process, therapy in various age groups            | 7. Age groups (rare exceptions)   |
| 8. The subject itself  | 8. A qualifier of the subject   |
| X SMOKING  | - - - - -STATISTICS (NIM)   |
| X PENICILLIN   | - - - - -CHEMISTRY (NIM)  |
| X ILEUM  | - - - - -INTESTINAL DISEASES (NIM)  |
| 9. Organ/Neoplasms heading and histological type                                   |   |
| 10. History of Medicine Century only if the point of the article                   | 10. Century if not the point of the article                                       |
| 11. MAIN HEADING *subheading   | 11. the same MAIN HEADING with other subheadings (rare exceptions)                |
|  | 12. General pathological processes in C17; see Manual 16.15                       |



## DEPTH AND NON-DEPTH RATIONALE

- I. Degree of depth of indexing as determined by the  
Committee on Selection of Literature for  
MEDLARS
- II. Definition of Depth as an unlimited number of  
headings to describe the article fully  
and adequately
- III. Definition of Non-Depth as the number of headings  
necessary to describe fully and adequately  
THE POINT OF THE ARTICLE
- IV. Expected number of heading for Depth; for Non-  
Depth
- V. Relation of Depth and Non-Depth to the headings  
printed in INDEX MEDICUS and to those stored  
in the computer

See Indexing Manual, Section 3: DEPTH INDEXING





## EXERCISE I

## INDEX MEDICUS

Current  
Monthly  
Copy

Please remove from the Index Section's reference shelves a copy of the INDEX MEDICUS monthly issues. Examine a recent issue, noting the following items.

## Subject Section

1. Form of entry
2. Alphabetization of entries
3. Typography
4. English titles vs foreign titles
5. Role of the journal title abbreviation
6. Language symbol
7. Position of author
8. Number of authors
9. Accents and diacriticals

## Name Section

1. Name as author
2. Name as biographee
3. Number of authors
4. Treatment of co-authors
5. Vernacular titles
6. Accents and diacriticals
7. Anonymous works

## Other Sections

1. Inside cover
2. Introduction
3. LJI supplement
4. MEDLARS Literature Searches
5. Bibliography of Medical Reviews
6. Other



EXERCISE II  
INDEX MEDICUS

1. Which section of INDEX MEDICUS is blue and which white?
2. How many authors are given in citations in the subject section?
3. How many authors are given in citations in the name section?
4. Do accent marks appear in the subject section?
5. Do translations appear in the name section?
6. Are there any cross-references in the subject section?
7. Are there any cross-references in the name section?
8. How are the citations arranged in the subject section under a given subject?
9. What is the fewest number of citations for an article by A. Fairchild on Freud's contribution to the discovery of cocaine?
10. Can anonymous articles written in English be found in INDEX MEDICUS? Where?



MEDICAL SUBJECT HEADINGS  
(MeSH)

- I. History (see Chronology, p. 3)
- II. Definition and purpose
- III. Creation and content
- IV. Sections
  - △ introductory matter
  - △ alphabetical list
  - △ categorized lists
- V. Alphabetical List
  - △ typography
  - △ categories in parentheses
  - △ classes of headings
    - main headings
    - cross-references (8 types) (see p. 28)
    - provisional headings
    - geographic headings (Z1)
  - △ relation to categorized lists
  - △ how to use
- VI. Categorized Lists
  - △ organization (14 categories)
  - △ margin and indention relationships
  - △ relation to alphabetized list
  - △ names and content of categories
  - △ subcategories
- VII. Scope and coverage (see p. 27)
- VIII. Trees (see p. 29)
  - △ organization
  - △ purpose
  - △ relation to MeSH
- IX. Hedges (see p. 31)





# MEDICAL SUBJECT HEADINGS (MeSH): General Characteristics

## Coverage

1. Organs, tissues, cells, regions
2. Diseases
3. Drugs, chemicals, endogenous and other substances
4. Living organisms: microorganisms, higher animals, plants
5. Procedures: diagnostic, therapeutic, surgical, anesthetic, analytic
6. Physiological processes
7. -OLOGIES and other fields and disciplines
8. Miscellaneous medical and paramedical concepts
9. Geography
10. Provisional Headings

## Form

1. Anglo-Saxon for organs; Latin or Greek in the absence of the Anglo-Saxon and for adjectival forms (BRAIN vs CEREBRAL; KIDNEY vs RENAL or NEPHR-)
2. Singular or plural form
3. Alphabetization: seek above or below the needed term
4. Inversions to bring like concepts together
5. Interchangeable compounds as entries (autoradiography vs radioautography; photomicrography vs microphotography)
6. Plural vs singular drugs
7. Compound drug names (di/hydr/oxy/quinoline)
8. Pre-coordinated headings
9. Specialties vs organs or diseases
10. Hyphenations for syndromes
11. Hyphenations for standard orthography (self help vs self-help devices)
12. Apostrophe s or s apostrophe for eponyms; for syndromes
13. Abbreviated headings: optional (See pp. 32-3)
14. Abbreviated headings: mandatory
15. Accents



## Cross-References

### Directional References

1. See (informally S)
2. See under (informally SU)
3. See also related (informally SR or SAR)
4. See also specific (informally SS or SAS)

### Corresponding Reverse References

- 1'. See from (officially X)
- 2'. See under from (officially XU)
- 3'. See also related from (officially XR)
- 4'. See also specific from (officially XS)



## C14 - INJURY, POISONING AND IMMUNOLOGIC DISEASE

## INJURY, IMMUNE DISEASE, POISONING (NON MESH) (CONTINUED)

## WOUNDS AND INJURIES (CONTINUED)

## FRACTURES (CONTINUED)

## TOOTH FRACTURES

C14.88.30.1 C4.88.54.1

## FROSTBITE

C14.88.32.

## IMMERSION FOOT

C14.88.32.1 C17.25.24.1

## TRENCH FOOT

C14.88.32.1 C17.25.24.1

## HAND INJURIES

C14.88.34.

## FINGER INJURIES

C14.88.34.1

## HEAD INJURIES

C14.88.36.

## BRAIN INJURY, ACUTE

C14.88.36.1 C14.88.16.

## CEREBROSPINAL OTORRHEA

C14.88.36.1 C11.26.9.

## CEREBROSPINAL RHINORRHEA

C14.88.36.1 C5.33.33.1

## PNEUMOCEPHALUS

C14.88.36.1

## HEART INJURIES

C14.88.38. C14.88.58.1

## HEAT EXHAUSTION

C14.88.39.

## SUNSTROKE

C14.88.39.1

## LEG INJURIES

C14.88.40.

## KNEE INJURIES

C14.88.40.1

## MAXILLOFACIAL INJURIES

C14.88.41.

## FACIAL INJURIES

C14.88.41.1

## MANDIBULAR INJURIES

C14.88.41.1

## MOTION SICKNESS

C14.88.42. C11.28.36.1

## NEUROSES, POST-TRAUMATIC

C14.88.43. F.34.44.1

## PERIPHERAL NERVE INJURIES

C14.88.44.

## RADIATION INJURY

C14.88.45.

## LEUKEMIA, RADIATION-INDUCED

C14.88.45.1 C2.10.49. C2.54.32.

## NEOPLASMS, RADIATION-INDUCED

C14.88.45.1 C2.54.

## \*OSTEORADIONECROSIS

C14.88.45.1

## RADIATION INJURY, EXPERIMENTAL

C14.88.45.1

## RADIODERMATITIS

C14.88.45.1 C12.75.

## RUPTURE

C14.88.46.

## SPLENIC RUPTURE

C14.88.46.1 C9.91.40. C14.88.2.1

## STOMACH RUPTURE

C14.88.46.1 C4.95.49. C14.88.2.1

## UTERINE RUPTURE

C14.88.46.1 C6.42.55. C6.60.60.

## SELF MUTILATION

C14.88.48. F.10.43.

## SHOCK, TRAUMATIC

C14.88.50. C17.88.52.1

## SPINAL CORD INJURIES

C14.88.52.

## SPINAL CORD COMPRESSION

C14.88.52.1 C10.99.42.

## SPINAL INJURIES

C14.88.53.

## WHIPLASH INJURY

C14.88.53.1

## SPRAINS AND STAINS

C14.88.54.

## TENDON INJURY

C14.88.56.

## THORACIC INJURIES

C14.88.58.

## HEART INJURIES

C14.88.58.1 C14.88.38.

## RIB FRACTURES

C14.88.58.1 C14.88.30.1

## WOUND INFECTION

C14.88.60. C1.30.58.

## WOUNDS, GUNSHOT

C14.88.62.

\* INDICATES PROVISIONAL HEADING

C14-4

Sample page from a  
tree





A partial extract from published MeSH presentations is given. They are to be compared with the presently UNOFFICIAL hedges useful in searching.

# Alphabetical Listing: EYE (A1, A9)

see also related

CYCLOPLEGICS (D4)

INTRAOCULAR PRESSURE (G1)

REFRACTION, OCULAR (E1)

VISION (G1)

XU COLOBOMA (A1, A9)

EYE, ARTIFICIAL (E4)

EYE BANKS see under TISSUE BANKS (E4, G3)

EYE BURNS (C11, C14)

EYE DISEASES (C11)

XR OPHTHALMOLOGY (G2)

EYE FOREIGN BODIES (C11, C14)

EYE INJURIES (C11, C14)

EYE MANIFESTATIONS (C11)

EYE MOVEMENTS (E1, F)

see also related

ELECTROOCULOGRAPHY (E1)

XU RAPID EYE MOVEMENTS (E1, F)

EYE NEOPLASMS (C2, C11)

EYE PROTEINS (D10)

## Categories:

EYE (A1)

Anterior Chamber

Conjunctiva

Cornea

Lacrimal Apparatus

Lens, Crystalline

Retina

Sclera

Uvea

Vitreous Body

EYEBROWS (A1)

EYELASHES (A1)

EYELIDS (A1)

FUNDUS OCULI

IRIS

Pupil

EYE BURNS (C14)

EYE DISEASES

Blepharoptosis

Hyphema

Microphthalmos (C16)

Stevens-Johnson Syndrome

(C4, C12)

EYE FOREIGN BODIES (C14)

EYE INJURIES (C14)

Eye Burns (C14)

Eye Foreign Bodies (C14)

EYE MANIFESTATIONS

Diabetic Retinopathy (C7,

C8)

EYE NEOPLASMS (C2)

Choroid Neoplasms (C2)

Retinoblastoma (C2)



# **EYE**

## **Trees:**

ANTERIOR CHAMBER  
 AQUEOUS HUMOR  
 CONJUNCTIVA  
 CORNEA  
 \*DESCEMET'S MEMBRANE  
 EYEBROWS  
 EYELASHES  
 EYELIDS  
 LACRIMAL APPARATUS  
 LENS, CRYSTALLINE  
 RETINA  
 FUNDUS OCULI  
 MACULA LUTEA  
 RODS AND CONES  
 SCLERA  
 UVEA  
 CHOROID  
 CILIARY BODY  
 IRIS  
 PUPIL  
 VITREOUS BODY

EYE DISEASES  
 ALBINISM  
 ASTHENIOPIA  
 BEHCET'S SYNDROME  
 CATARACT  
 CONJUNCTIVITIS  
 CONJUNCTIVITIS, INCLUSION  
 KERATOCONJUNCTIVITIS  
 OPHTHALMIA NEONATORUM  
 PTERYGIUM  
 REITER'S DISEASE  
 CORNEAL DISEASES (NON MESH)  
 \*ARCUS SENILIS  
 CORNEAL DYSTROPHIES  
 CORNEAL OPACITY  
 KERATITIS  
 KERATOCONUS  
 EXOPHTHALMOS  
 GOITER, EXOPHTHALMIC  
 EYELID DISEASES (NON MESH)  
 \*BLEPHARITIS  
 BLEPHAROPTOSIS

## **Hedge:**

A1, A9	EYE	ORTHOPTICS
A2	OCULOMOTOR MUSCLES	EYE, ARTIFICIAL
A7	OPHTHALMIC ARTERY	CATARACT EXTRACTION
A8	OPHTHALMIC NERVE	VISUAL PERCEPTION
C11	EYE DISEASES	EYE MOVEMENTS
D5	MYDRIATICS	VISION
D13	OPHTHALMIC SOLUTIONS	OPHTHALMOLOGY
E1	OPHTHALMOSCOPY	OPTICS



## DATA FORM ABBREVIATIONS

MeSH TERM

AMERICAN DENTAL ASSOCIATION  
 AMERICAN MEDICAL ASSOCIATION  
 AMERICAN NURSES' ASSOCIATION  
 HEALTH INSURANCE FOR AGED, TITLE 18  
 UNITED STATES FOOD AND DRUG ADMINISTRATION  
 UNITED STATES NATIONAL INSTITUTES OF HEALTH  
 UNITED STATES NATIONAL LIBRARY OF MEDICINE  
 UNITED STATES OFFICE OF ECONOMIC OPPORTUNITY  
 UNITED STATES PUBLIC HEALTH SERVICE  
 UNITED STATES VETERANS ADMINISTRATION  
 WORLD HEALTH ORGANIZATION

CONDITIONING (PSYCHOLOGY)  
 CONFLICT (PSYCHOLOGY)  
 COUNTERTRANSFERENCE (PSYCHOLOGY)  
 CRITICAL PERIOD (PSYCHOLOGY)  
 DISPLACEMENT (PSYCHOLOGY)  
 EXTINCTION (PSYCHOLOGY)  
 GENERALIZATION (PSYCHOLOGY)  
 HANDLING (PSYCHOLOGY)  
 IDENTIFICATION (PSYCHOLOGY)  
 IMPRINTING (PSYCHOLOGY)  
 INTROVERSION (PSYCHOLOGY)  
 PRACTICE (PSYCHOLOGY)  
 REINFORCEMENT (PSYCHOLOGY)  
 SET (PSYCHOLOGY)  
 TRANSFER (PSYCHOLOGY)  
 TRANSFERENCE (PSYCHOLOGY)

CROSSING OVER (GENETICS)  
 POLYMORPHISM (GENETICS)  
 SELECTION (GENETICS)  
 VARIATION (GENETICS)

PREGNANCY COMPLICATIONS  
 PREGNANCY COMPLICATIONS, CARDIOVASCULAR  
 PREGNANCY COMPLICATIONS, HEMATOLOGIC  
 PREGNANCY COMPLICATIONS, INFECTIOUS

CYTOPATHOGENIC EFFECT, VIRAL  
 HEPATITIS VIRUS, INFECTIOUS CANINE  
 LYMPHOCYTIC CHORIOMENINGITIS VIRUS

ADENOSINE CYCLIC 3',5'-PHOSPHATE  
 ANTI-INFLAMMATORY AGENTS, TOPICAL  
 ETHIONIAMIDE  
 GLUCOSEPHOSPHATE DEHYDROGENASE

DATA FORM

ADA  
 AMA  
 ANA  
 MEDICARE  
 FDA  
 NIH  
 NLM  
 OEO  
 PHS  
 VA  
 WHO

CONDITIONING  
 CONFLICT  
 COUNTERTRANSFERENCE  
 CRITICAL PERIOD  
 DISPLACEMENT  
 EXTINCTION  
 GENERALIZATION  
 HANDLING  
 IDENTIFICATION  
 IMPRINTING  
 INTROVERSION  
 PRACTICE  
 REINFORCEMENT  
 SET  
 TRANSFER  
 TRANSFERENCE

CROSSING OVER  
 POLYMORPHISM  
 SELECTION  
 VARIATION

PREGNANCY COMPL.  
 PREGNANCY COMPL., CARDIOVASCULAR  
 PREGNANCY COMPL., HEMATOLOGIC  
 PREGNANCY COMPL., INFECTIOUS

CPE  
 HEPATITIS VIRUS, CANINE  
 LYMPHOCYTIC CHORIO. VIRUS

CYCL AMP  
 ANTI-INFLAMM. AGENTS, TOPICAL  
 ETHIONAMIDE or ETHIONIAMIDE  
 GPD





MeSH TERM

ANEMIA, HEMOLYTIC, CONGENITAL  
 NONSPHEROCYTIC  
 ECCENTRO-OSTEOCHONDRODYSPLASIA

PULMONARY ADENOMATOSIS, BOVINE  
 PULMONARY ADENOMATOSIS, OVINE  
 STAPHYLOCOCCAL INFECTIONS  
 TENDINITIS

THROMBELASTOGRAPHY

DATA FORM

ANEMIA, HEMOLYTIC CON  
 NONSPHEROCYTIC  
 ECCENTRO-OSTEOCHONDRODYSPLASIA or  
 ECCENTRO- OSTEOCHONDRODYSPLASIA

PULM ADENOMATOSIS, BOVINE  
 PULM ADENOMATOSIS, OVINE  
 STAPH INFECTIONS  
 TENDINITIS or TENDONITIS

THROMBELASTOGRAPHY or  
 THROMBOELASTOGRAPHY



## MeSH

## EXERCISE I

In Non-Depth Indexing we are frequently called upon to use a general term instead of three or four specifics which would be required for Depth Indexing.

Pretend that you need the following groups of concepts for Non-Depth Indexing. Using the MeSH categories, what single main heading would you use to cover the groups typed below?

1. Papova virus, Yaba virus and myxoma virus
2. Myotonia, myoclonus and amyotonia
3. Raticides, insecticides and weed-killers
4. Pilocarpine, acetylcholine and neostigmine
5. The thymus and lymph nodes
6. The eyes, eyebrows and eyelids
7. Basophils, lymphocytes and erythrocytes
8. Anthracosilicosis, silicosis and silico-  
tuberculosis
9. Rice, puffed rice, wheat, puffed wheat and  
cornflakes
10. Nerve block and spinal anesthesia



## MeSH

## EXERCISE II

What main heading or main headings in MeSH do you think should be used to cover articles on the following subjects? The word or phrase below was that used by the author and represents terms or concepts required for indexing.

1. Radiorenography
2. Subvalvular stenosis
3. Lichen
4. Dishydrosis
5. Disabled persons
6. Hepatic amebiasis
7. Mass cancer x-ray
8. Microfilaria diurna infection
9. Prefrontal lobotomy
10. Pulmonary lobectomy
11. Ventricular neoplasms
12. Bacterial survival
13. Visual pigments
14. Reinforcement
15. Medical jurisprudence
16. Urinary tract
17. Dog bites
18. Bicycles
19. Urinals
20. Bacterial culture
21. Leg fractures
22. Sodium-free diet
23. Cooked foods
24. Tomatoes
25. Cerebral edema
26. Hepatic cirrhosis
27. Chocolate candy
28. Double vision
29. Posterior cranial fossa
30. Sympathetic nerves





## DATA FORM

- I. Purpose and disposition
- II. Evolution (See p.37)

CLML  
IM 1963  
IM 1965

- III. Appearance (See pp. 39-40)

general neatness  
clarity in typing  
uniform margins  
correct spelling  
exact alignment of headings  
exact alignment of X's  
pencilled emendations  
uniform typography  
    MAIN HEADINGS   \*subheading  
    double-spacing between entries

- IV. Descriptive indexing

standard date; non-standard date  
pagination: standard, non-standard, passim, +  
opt. pagination  
author data (Print)  
no author; anonymous block  
author data (Sort) (See p.  
title -translation, brackets, language symbol  
title - vernacular: punctuation, accents  
marking of title: half-blocks, subtitles,  
    capitalization, accents, numerals, punctu-  
    ation  
supplied titles

- V. Subject Indexing

MAIN HEADING  
subheading  
IM and NIM: definition and purpose  
Check Tags



## DATA FORMS

The following three sheets are Data Forms.

A was used in the preparation of CURRENT LIST OF MEDICAL LITERATURE and INDEX MEDICUS to 1963. B was the first Data Form for input into MEDLARS. C is the current form.



Paging	Special Author Data	Senior Author Code
Title - Translation		Listomatic Code
Subject Analysis		Indexer
		Proofreader

National Library of Medicine - Index Medicus - (NHS-3266, Rev. 1-61)

DATA FORM

A









A_anonymous		PAGINATION	OPT. PAGINATION
D_non-std date			
P_non-std pagination			

AUTHOR DATA (Print)

AUTHOR DATA (Sort)

TITLE (English or English Translation)

C

TITLE (Vernacular or Transliterated Vernacular)

IM	NIM	MAIN HEADING	*subheading	IM	NIM	CHECK TAGS
		REVIEW---	References			INFANT, NEWBORN (to 1 mo.)
		PREGNANCY				INFANT (1-23 mos.)
						CHILD, PRESCHOOL (2-5 yrs.)
						CHILD (6-12 yrs.)
						ADOLESCENCE (13-18 yrs.)
						ADULT (19-44 yrs.)
						MIDDLE AGE (45-64 yrs.)
						AGED (65- yrs.)
						CATS
						CATTLE
						DOGS
						GUINEA PIGS
						MICE
						RABBITS
						RATS
						HISTORY OF MEDICINE
						ANCIENT
						MEDIEVAL
						MODERN
						15TH CENT.
						16TH CENT.
						17TH CENT.
						18TH CENT.
						19TH CENT.
						20TH CENT.
		RACIAL AND ETHNIC GROUPS				HISTORICAL ARTICLE
						HISTORICAL BIOGRAPHY
						CURRENT BIOG-OBIT
						ANIMAL EXPERIMENTS
						HUMAN
						IN VITRO
		GEOGRAPHIC HEADINGS				FEMALE
						MALE
						CASE REPORT
		PROVISIONAL HEADINGS				CLINICAL RESEARCH
						COMPARATIVE STUDY





## VI. Check Tags

definition and purpose

IM and NIM: review of definition and purpose

Age Groups: use, age limitations, rules governing IM, rules governing NIM

Animals: use, rules governing IM and NIM, differentiation of experimental and veterinary animals

history tags: purpose, rules governing IM and NIM

NIM tags: definition and purpose

Historical Article: use and relation to Historical Biography

Historical Biography: use and relation to Historical Article and current biography

Current Biog-Obit: limitations

Animal Experiments

Human: when used and when not used

In Vitro: MeSH definition and restriction

Female, Male

Case report: MeSH definition and restriction

Clinical Research: MeSH definition and restriction

Comparative Study: MeSH definition and restriction

Provisional Headings: definition and purpose

Geographic Headings: use

Racial and Ethnic Groups: differentiation and use

PREGNANCY: normal and pathological, when IM and when NIM

Review: purpose, coverage, differentiation from historical articles, use of pink Data Form, approval by Head, Index Section

## VII. Mandatory and optional abbreviations

## VIII. Special handling of physicians and famous persons

position on Data Form

definition of FAMOUS PERSONS

required Check Tags





A_anonymous	
D_non-std date	
P_non-std pagination	

PAGINATION

398-400

OPT. PAGINATION

AUTHOR DATA (Print)

Charen TG, Iri H, Hayashida M, Fukudome T

AUTHOR DATA (Sort)

TITLE (English or English Translation)

TITLE (Vernacular or Transliterated Vernacular)

IM	NIM	MAIN HEADING	*subheading	IM	NIM	CHECK TAGS
		REVIEW---	References			INFANT, NEWBORN (to 1 mo.)
		PREGNANCY				INFANT (1-23 mos.)
X		OSTEITIS FIBROSA	*pathology			CHILD, PRESCHOOL (2-5 yrs.)
						CHILD (6-12 yrs.)
						ADOLESCENCE (13-18 yrs.)
X		LIVER GLYCOGEN	*metabolism			ADULT (19-44 yrs.)
						MIDDLE AGE (45-64 yrs.)
X		HYPOPHYSECTOMY				AGED (65+ yrs.)
						CATS
		ADRENALECTOMY				CATTLE
						DOGS
		CALCIUM	*blood			GUINEA PIGS
				X		MICE
		CALCIUM	*metabolism			RABBITS
				X		RATS
						HISTORY OF MEDICINE
						ANCIENT
						MEDIEVAL
						MODERN
						15TH CENT.
						16TH CENT.
						17TH CENT.
						18TH CENT.
						19TH CENT.
						20TH CENT.
		RACIAL AND ETHNIC GROUPS				
		GEOGRAPHIC HEADINGS				HISTORICAL ARTICLE
						HISTORICAL BIOGRAPHY
						CURRENT BIOG-OBIT
				X		ANIMAL EXPERIMENTS
				X		HUMAN
		PROVISIONAL HEADINGS				IN VITRO
						FEMALE
X		FIBROUS DYSPLASIA	*pathology		X	MALE
						CASE REPORT
						CLINICAL RESEARCH
						COMPARATIVE STUDY



A_anonymous		PAGINATION	385-409	OPT. PAGINATION
D_non-std date				
P_non-std pagination				
AUTHOR DATA (Print)				

AUTHOR DATA (Sort)

TITLE (English or English Translation)

TITLE (Vernacular or Transliterated Vernacular)

IM	NIM	MAIN HEADING	*subheading	IM	NIM	CHECK TAGS
		REVIEW---	References		X	INFANT, NEWBORN (to 1 mo.)
		PREGNANCY			X	INFANT (1-23 mos.)
					X	CHILD, PRESCHOOL (2-5 yrs.)
		SPLEEN *abnormalities			X	CHILD (6-12 yrs.)
X		CARDIOVASCULAR DISEASES *diagnosis			X	ADOLESCENCE (13-18 yrs.)
		RUBELLA *complications			X	ADULT (19-44 yrs.)
		ELLIS-VAN CREVELD SYNDROME			X	MIDDLE AGE (45-64 yrs.)
		TRISOMY				AGED (65- yrs.)
		LIPOCHONDRODYSTROPHY				CATS
		HYPERCALCEMIA				CATTLE
		DEAFNESS *congenital				DOGS
		EHLERS-DANLOS SYNDROME				GUINEA PIGS
		HEART DEFECTS, CONGENITAL				MICE
		ARACHNODACTYLY				RABBITS
		CARDIOVASCULAR SYSTEM *abnormalities				RATS
		TURNER'S SYNDROME				HISTORY OF MEDICINE
		HEART SEPTAL DEFECTS, VENTRICULAR				ANCIENT
		MONGOLISM				MEDIEVAL
		HEART SEPTAL DEFECTS, ATRIAL				MODERN
		FRIEDREICH'S ATAXIA				15TH CENT.
		GLUCOSIDASE *metabolism				16TH CENT.
						17TH CENT.
		RACIAL AND ETHNIC GROUPS				18TH CENT.
X		MUSCULAR DYSTROPHY				19TH CENT.
X		AUTONOMIC DYSFUNCTION *familial & genetic				20TH CENT.
X		GLYCOGENOSIS				
						HISTORICAL ARTICLE
		GEOGRAPHIC HEADINGS				HISTORICAL BIOGRAPHY
X		HAND DEFORMITIES *familial & genetic				CURRENT BIOG-OBIT
X		JEWS				ANIMAL EXPERIMENTS
X		METABOLISM, INBORN ERRORS			X	HUMAN
						IN VITRO
		PROVISIONAL HEADINGS			X	FEMALE
					X	MALE
						CASE REPORT
						CLINICAL RESEARCH
						COMPARATIVE STUDY





## SORT AUTHOR

1. Alphabetization needed for the published INDEX MEDICUS:  
López F  
López T  
López Alonso B  
López García A
2. Hypothetical order in which the names entered the computer:  
López García A  
López T  
López F  
López Alonso B
3. Numerical values are assigned to letters, spaces, punctuation and accents:

A=21	H=30	O=46	V=65
B=22	I=31	P=47	W=66
C=23	J=41	Q=50	X=67
D=24	K=42	R=51	Y=70
E=25	L=43	S=62	Z=71
F=26	M=44	T=63	accent=12
G=27	N=45	U=64	space=15

Thus, the name lopez reads l=43 o=46 ' =12 p=47 e=25  
z=71 or 43 46 12 47 25 71. For alphabetization,  
accents are not needed so Lopez reads 4346472571.

4. Converting the names as entered above in paragraph 2, they read thus, including 15 for the space in the compound names:

43 46 47 25 71 15 27 21 51 23 31 21 15 21  
43 46 47 25 71 15 63  
43 46 47 25 71 15 26  
43 46 47 25 71 15 21 43 46 45 62 46 15 22

5. Based on numerical values and arranging in correct order by the above numbers, the resultant array would be
- Lopez Alonso B  
Lopez F  
Lopez Garcia A  
Lopez T
- but this is still not correct.





6. By arbitrarily introducing AA (i.e., 21 21) between compound names instead of spaces, the resultant coding is

43 46 47 25 71 21 21 27 21 51 23 31 21 15 21  
 43 46 47 25 71 15 63  
 43 46 47 25 71 15 26  
 43 46 47 25 71 21 21 21 43 46 45 62 46 15 22

7. Now, arranging in numerical order, we have

43 46 47 25 71 15 26  
 43 46 47 25 71 15 63  
 43 46 47 25 71 21 21 21 43 46 45 62 46 15 22  
 43 46 47 25 71 21 21 27 21 51 23 31 21 15 21

8. Converted by the electronic printer this reads

lopez f  
 lopez t  
 lopez alonso b  
 lopez garcia a

9. With internal restoration of capitalization and accents for the printed page, this becomes as required

López F  
 López T  
 López Alonso B  
 López García A



## CHECK TAGS

A Check Tag is simply an arbitrary item which must be looked for ROUTINELY in every article. It is a facet of an article which is of potential significance to the most important special-interest groups we serve: the clinicians, the scientists in experimental research, the NLM History of Medicine Division, and the Drug Literature Program. The Check Tags indicated on the Data Form reflect the present wishes of these groups and could be modified under the supervision of MeSH should more or different ones be found essential to the medical community.

A Data Form bearing the main heading GOUT and the Check Tag CHILD could mean three things:

1. that an article was entitled GOUT IN CHILDREN and concerned this disease in this age group in general as a clinical entity;
2. that an article was entitled GOUT and in reporting his cases, the author listed seven of which one was a child;
3. that an article was entitled GOUT IN A CHILD: AN UNUSUAL CASE.

The coordination of GOUT and CHILD in any of these hypothetical articles will bring forth from the computer on a requested search all three in answer to this question:

"Do you have any article in your system  
on gout in which a child figures?"

If we judge the main headings under which an Indexer indexes an article to be the most important aspect of indexing, the second most important is the Check Tag. Its value to retrieval cannot be over-emphasized and an Indexer must learn to seek it out and supply it automatically.





## List of Provisional Headings 1969

- facility design and construction (J) 8/16/67  
J.12.22
- architecture, exterior and interior design and construction of facilities other than hospitals, e.g., dental schools, medical schools, ambulatory care clinics, and specified units of health care facilities
- INDEX UNDER: ARCHITECTURE (J)
- factor V deficiency (C9) 7/9/64  
C9.58.9.1
- a rare hemorrhagic tendency known as parahemophilia or hypoproaccelerinemia, probably an inherited condition
- INDEX UNDER: HYPOPROTHROMBINEMIAS
- factor XI deficiency (C9) 11/4/66  
C9.58.9.1
- hemorrhagic diathesis due to deficiency of plasma thromboplastin antecedent, factor XI; PTA deficiency
- INDEX UNDER: HEMORRHAGIC DIATHESIS
- factor XIII (D7) 11/24/64  
D7.60.35.1
- a blood clotting factor; after activation by thrombin, it is responsible, together with calcium, for the formation of a fibrin structure which is insoluble in hydrogen-bond breaking solvents
- syn: fibrin stabilizing factor (FSF); Laki-Lorand factor (LL Factor); fibrinase
- INDEX UNDER: BLOOD COAGULATION FACTORS
- false positive reaction (E1) 7/10/68  
E1.44
- the occurrence of a positive test result in conditions other than that for which the test is presumably specific
- Valid subheadings: +classification, +history
- INDEX UNDER: appropriate disease  
main heading  
+diagnosis  
or appropriate test  
main heading
- fat tolerance test (E1) 7/25/63  
E1.9.13
- level of blood lipids after administration of a fat meal
- INDEX UNDER: FATS
- fatty streak, arterial (C8) 3/2/64  
C8.91.10.1
- streaking of the arteries, especially the aorta, with fatty tissue; being investigated as a precursor to atheromatous plaques and lesions of atherosclerosis. Possibly correlated with cholesterol in the diet
- INDEX UNDER: ARTERIOSCLEROSIS  
\*pathology
- Favre-Racouchot syndrome (C12) 9/8/64  
C12.30
- colloid degenerative changes of connective tissue in the epidermis of elderly people
- syn: cutaneous nodular elastoidosis with cysts and comedones
- INDEX UNDER: SKIN DISEASES





## DATA FORM

## EXERCISE I

## Check Tags

Using a Data Form for reference, indicate here what check tag or tags, if any, you would index under for articles on subjects discussing the following:

1. both humans and animals
2. children without the exact age indicated by the author
3. US Army recruits
4. both rats and pigs
5. a 70-year-old elephant
6. newborn mice
7. an MD dying in 1965
8. an MD accepting an award
9. a biographical sketch of 20th century Nobel Prize winners in medicine
10. the comparative effects of chlorpromazine on schizophrenics and neurotics
11. the lung capacity of smokers
12. the complications of pregnancy in dogs
13. the contribution of Benjamin Franklin to 18th century electrophysiology
14. a history of syphilis giving case studies of famous artists
15. the growth of infants
16. submerged bacterial cultures
17. ancient medicine in China
18. an unusual case of staphylococcal infection
19. liver circulation in human volunteers
20. treatment of chickenpox in preschool children



## DATA FORM

## EXERCISE II

## IM &amp; NIM

Using a Data Form as a reference, indicate whether you would index the concept typed in CAPITALS as IM or NIM.

1. the heart rate in INFANTS
2. breathing in NEWBORN INFANTS
3. respiratory diseases in NEWBORN INFANTS
4. respiratory diseases in INFANTS
5. headache in the MIDDLE AGED
6. smoking among American ADOLESCENTS
7. INFANT mortality in thalidomide therapy
8. PREGNANCY in experimental schistosomiasis in DOGS
9. PREGNANCY in DOGS
10. ectopic PREGNANCY in a pet BEAGLE
11. plant poisoning in CATTLE
12. precocious adult behavior in young RATS
13. experimental arthritis in MICE
14. motor neurons in RABBITS
15. injuries in covered wagons in the 19TH CENTURY
16. injuries in chariots in ANCIENT ROME
17. history of research on the liver in the 17TH and 18TH CENTURIES
18. development of x-ray technics TODAY
19. blood groups in NEGROES
20. peptic ulcer among ESKIMOS



## SUBHEADINGS

## I. Purpose and need for subheadings

## II. Coordination

Philosophy of coordination

Types of coordination in MEDLARS (See p. 48)

- △ main heading + main heading
- △ main heading + check tag
- △ main heading + subheading
- △ pre-coordinated main heading

## III. History of subheadings at NLM (See p. 49)

- △ pre-1954
- △ SHAL 1954
- △ MeSH 1960
- △ MeSH 1965-present

## IV. Subheading lists (See pp. 50-53)

- △ alphabetical listing
- △ categorized listing

## V. Application of subheadings by category

## VI. Definition of subheadings by category

## VII. Specialized uses of subheadings (See pp. 57-60)

## VIII. Applied uses of subheadings

- △ typography and location on Data Form
- △ permissible number for same main headings  
(See p. 56)
- △ permissible number in relation to IM and NIM
- △ invalid main heading/subheading combinations
- △ coverage in the Indexing Manual





# Types of Coordination in MEDLARS

X = a heading to be printed in INDEX MEDICUS

1.	MAIN HEADING + MAIN HEADING	
a.	both equal in significance	X LIVER
b.	one subordinate	X GOUT
		X SMOKING STATISTICS
2.	MAIN HEADING + Check Tag	X HEPATITIS + CHILD
3.	MAIN HEADING + subheading	X HEPATITIS *prevention & control
4.	PRE-COORDINATED MAIN HEADING	
a.	two MAIN HEADINGS originally	X LIVER GLYCOGEN: originally X LIVER + X GLYCOGEN
		X MITOCHONDRIA, LIVER: originally X MITOCHONDRIA + X LIVER
b.	MAIN HEADING + Check Tag	X DIABETES MELLITUS, JUVENILE: originally X DIABETES MELLITUS + CHILD
c.	MAIN HEADING + subheading	X COMMUNICABLE DISEASE CONTROL: originally X COMMUNICABLE DISEASES *pre- vention & control



## SUBHEADINGS: HISTORY

## EFFECT OF SODIUM AND POTASSIUM ON LIVER METABOLISM OF GLUCOSE

1954-1959: LIVER - metabolism  
glucose, eff. of sodium & potassium

GLUCOSE - metabolism  
liver, eff. of sodium & potassium

SODIUM - effects  
on liver metab. of glucose

POTASSIUM - effects  
on liver metab. of glucose

1960-1962: LIVER - metabolism

GLUCOSE - metabolism

SODIUM - pharmacology

POTASSIUM - pharmacology

1963-1965:	LIVER	SODIUM
	METABOLISM	PHARMACOLOGY
	GLUCOSE	POTASSIUM

Problem: Effect of glucose on liver metabolism of sodium

LIVER	GLUCOSE
METABOLISM	PHARMACOLOGY
SODIUM	

Identical main headings in correct coordinations result  
in false drops

1966-	LIVER	*metabolism
	GLUCOSE	*metabolism
	SODIUM	*pharmacology (later *pharmacodynamics)
	POTASSIUM	*pharmacology (later *pharmacodynamics)



## INDEX MEDICUS SUBHEADINGS - 1969

## Alphabetical List of 60 Subheadings

- \*abnormalities (A)
- \*administration & dosage (D)
- \*adverse effects (D,E,H)
- \*analysis (A,B,D,G,J)
- \*anatomy & histology (A,B)
- \*antagonists & inhibitors (D)
- \*biosynthesis (D)
- \*blood (C,D,F)
- \*blood supply (A)
- \*cerebrospinal fluid (C,D,F)
- \*chemical synthesis (D)
- \*chemically induced (C,F)
- \*classification (B,C,D,E,F,G,H,I,N)
- \*complications (C,F)
- \*congenital (C)
- \*cytology (A,B)
- \*diagnosis (C,F)
- \*diagnostic use (D,H)
- \*drug effects (A,B,F,G)
- \*drug therapy (C,F)
- \*education (F,G,H,I,N)
- \*embryology (A,B)
- \*enzymology (A,B,C,F)
- \*etiology (C,F)
- \*familial & genetic (C,F)
- \*growth & development (A,B)
- \*history (C,D,E,F,G,H,I,J,K,L,M,N)
- \*immunology (A,B,C)
- \*injuries (A)
- \*innervation (A)
- \*instrumentation (E,F,G,H,J)
- \*isolation & purification (B,D)
- \*manpower (E,F,G,H,I,L,N)
- \*metabolism (A,B,C,D,F)
- \*microbiology (A,C)
- \*mortality (C,E,F)
- \*nursing (C,F)
- \*occurrence (C,F)
- \*pathogenicity (B)
- \*pathology (A,C,F)
- \*pharmacodynamics (D)
- \*physiology (A,B,D,G)
- \*physiopathology (A,C,F)
- \*poisoning (D,J)
- \*prevention & control (C,F,G)
- \*radiation effects (A,B,D,G)
- \*radiography (A,C,F)
- \*radiotherapy (C,F)
- \*rehabilitation (C,F)
- \*secretion (A,D)
- \*standards (D,E,F,H,I,J,L,N)
- \*supply & distribution (D,E,L,N)
- \*surgery (A,C,F)
- \*therapeutic use (D,H)
- \*therapy (C,F)
- \*toxicity (D,J)
- \*transplantation (A)
- \*urine (C,D,F)
- \*utilization (E,L,N)
- \*veterinary (C,E)





Category A - Anatomical Terms

\*abnormalities  
 \*analysis  
 \*anatomy & histology  
 \*blood supply  
 \*cytology  
 \*drug effects

\*embryology  
 \*enzymology  
 \*growth & development  
 \*immunology  
 \*injuries

\*innervation  
 \*metabolism  
 \*microbiology  
 \*pathology  
 \*physiology

\*physiopathology  
 \*radiation effects  
 \*radiography  
 \*secretion  
 \*surgery  
 \*transplantation

Category B - Organisms

\*analysis  
 \*anatomy & histology  
 \*classification  
 \*cytology

\*drug effects  
 \*embryology  
 \*enzymology

\*growth & development  
 \*immunology  
 \*isolation & purification

\*metabolism  
 \*pathogenicity  
 \*physiology  
 \*radiation effects

Category C - Diseases

\*blood  
 \*cerebrospinal fluid  
 \*chemically induced  
 \*classification  
 \*complications  
 \*congenital  
 \*diagnosis

\*drug therapy  
 \*enzymology  
 \*etiology  
 \*familial & genetic  
 \*history  
 \*immunology  
 \*metabolism

\*microbiology  
 \*mortality  
 \*nursing  
 \*occurrence  
 \*pathology  
 \*physiopathology  
 \*prevention & control

\*radiography  
 \*radiotherapy  
 \*rehabilitation  
 \*surgery  
 \*therapy  
 \*urine  
 \*veterinary

Category D - Chemicals and Drugs

\*administration & dosage  
 \*adverse effects  
 \*analysis  
 \*antagonists & inhibitors  
 \*biosynthesis  
 \*blood

\*cerebrospinal fluid  
 \*chemical synthesis  
 \*classification  
 \*diagnostic use  
 \*history

\*metabolism  
 \*pharmacodynamics  
 \*physiology  
 \*poisoning  
 \*radiation effects

\*secretion  
 \*standards  
 \*supply & distribution  
 \*therapeutic use  
 \*toxicity  
 \*urine

\*isolation & purification



Category E - Analytical, Diagnostic and Therapeutic Technics and Equipment

*adverse effects	*instrumentation	*supply & distribution
*classification	*manpower	*utilization
*history	*mortality	*veterinary
	*standards	

Category F - Psychiatry and Psychology

*blood	*drug therapy	*manpower	*prevention & control
*cerebrospinal fluid	*education	*metabolism	*radiography
*chemically induced	*enzymology	*mortality	*radiotherapy
*classification	*etiology	*nursing	*rehabilitation
*complications	*familial & genetic	*occurrence	*standards
*diagnosis	*history	*pathology	*surgery
*drug effects	*instrumentation	*physiopathology	*therapy
			*urine

Category G - Biological Sciences

*analysis	*education	*physiology
*classification	*history	*prevention & control
*drug effects	*instrumentation	*radiation effects
	*manpower	

Category H - Physical Sciences

*adverse effects	*education	*manpower
*classification	*history	*standards
*diagnostic use	*instrumentation	*therapeutic use

Category I - Social Sciences

*classification	*history	*manpower
*education		*standards



Category J - Technology, Commerce and Industry

*analysis	*instrumentation	*standards
*history	*poisoning	*toxicity

Category K - Humanities

\*history

Category L - Communication, Library Science and Documentation

*history	*standards	*supply & distribution
*manpower		*utilization

Category M - Named Groups of Persons

\*history

Category N.- Health Care

*classification	*history	*supply & distribution
*education	*manpower	*utilization
	*standards	





Since subheadings fall into natural groups, it is possible to conceive of a treeing of subheadings to show relationships in the same way main headings are arranged in the MeSH Tree Structures. Like MeSH categories, the groups below should always be examined for the most specific application in the permitted category.

\*anatomy & histology

- \*blood supply
- \*cytology
- \*embryology
  - \*abnormalities
- \*innervation
- \*pathology

\*physiology

- \*growth & development
- \*metabolism
  - \*biosynthesis
  - \*blood \*urine \*CSF \*
  - \*enzymology
- \*physiopathology
- \*secretion

\*therapy

- \*drug therapy
  - \*administration & dosage
  - \*adverse effects
- \*nursing
- \*prevention & control
- \*radiotherapy
- \*rehabilitation
- \*surgery
  - \*transplantation

\*etiology

- \*chemically induced
- \*familial & genetic
- \*immunology
- \*microbiology
  - \*pathogenicity

\*diagnosis

- \*enzymology
- \*immunology
- \*microbiology
- \*radiography

\*analysis

- \*blood \*urine \*CSF \*
- \*enzymology
- \*isolation & purification

\*pharmacodynamics

- \*administration & dosage
- \*drug effects
  - \*adverse effects
  - \*poisoning
  - \*toxicity

\*occurrence

- \*familial & genetic
- \*mortality
- \*veterinary

\*instrumentation

- \*supply & distribution
- \*utilization

(radiodiagnosis=\*radiography  
radiotherapy=\*radiotherapy  
radiobiologic  
action=\*radiation effects)



## SUBHEADINGS

## Common Combinations

The groups below are commonly encountered pairings of combinations of subheadings. Add others to the list as you meet them:

- |             |                |   |  |
|-------------|----------------|---|--|
| (Disease A) | *etiology      | - | where the cause-and-effect relationship is known                     |
| (Disease B) | *complications |   |  |
| (Disease A) | *complications | - | where the diseases are associated but cause-and-effect is not stated |
| (Disease B) | *complications |   |  |

(Disease) \*drug therapy  
(Drug) \*therapeutic use

(Organ)	*drug effects	(Organism)	*drug effects
(Drug)	*pharmacodynamics	(Drug)	*pharmacodynamics

(Organ)	*metabolism	(Organism)	*metabolism
(Substance)	*metabolism	(Substance)	*metabolism

(Disease) \*metabolism  
(Organ) \*metabolism  
(Substance) \*metabolism

(Disease) \*chemically induced  
(Drug) \*adverse effects

(Organ) \*radiation effects  
RADIATION EFFECTS  
specific radiation



## Multiple Subheadings as IM

**ETIOLOGY**

Intracranial abscesses of odontogenic origin. Hollis BA, et al. Oral Surg 23:277-93, Mar 67  
Clt. no. 2267103

**BRAIN NEOPLASMS****COMPLICATIONS**

Paralysis of the muscles of mastication due to carcinomatosis. Butler DJ.  
Brit Dent J 122:193-4, 7 Mar 67  
Clt. no. 2300028

**DIAGNOSIS**

The sellar-cranial index. Martinez-Farinas LO.  
Radiology 88:264-7, Feb 67  
Clt. no. 2255216

**BRANCHIOMA****ETIOLOGY**

The histogenesis of the branchial cyst. Little JW, et al.  
Amer J Path 50:533-47, Mar 67  
Clt. no. 2273610

**PATHOLOGY**

The histogenesis of the branchial cyst. Little JW, et al.  
Amer J Path 50:533-47, Mar 67  
Clt. no. 2273610  
A lymphoepithelial cyst of the oral cavity. Report of a case. Young WG, et al. Oral Surg 23:62-70, Jan 67,  
Clt. no. 2223663

**BREAST NEOPLASMS****COMPLICATIONS**

Osteosarcoma of breast metastasizing to the oral cavity.  
Shapiro R, et al. Oral Surg 25:60-61, Jan 67  
Clt. no. 2223662

**RADIOTHERAPY**

Analysis of tumor-recurrence times. Suit H, et al.  
Radiology 88:311-21 passim, Feb 67  
Clt. no. 2255230

**BROMELAINS****THERAPEUTIC****OCCURRENCE**

Occlusion of cerebral-palated children. Rosenbaum CH, et al. J Dent 1966:700, Nov-Dec 66

**BURNS, ELECTRIC****PREVENTION & CONTROL**

Electric mouth burns in children. Treatment and prevention. Fogh-Andersen P, et al.  
Acta Chir Scand 131:214-8, Mar 66  
Clt. no. 2306754

**SURGERY**

Electric mouth burns in children. Treatment and prevention. Fogh-Andersen P, et al.  
Acta Chir Scand 131:214-8, Mar 66  
Clt. no. 2306754

**THERAPY**

Electric mouth burns in children. Treatment and prevention. Fogh-Andersen P, et al.  
Acta Chir Scand 131:214-8, Mar 66  
Clt. no. 2306754

**CACAO**

Inhibition of hamster caries by cocoa. The effect of whole and defatted cocoa, and the absence of activity in cocoa fat. Strålfrors A.  
Arch Oral Biol 11:149-61, Feb 66  
Clt. no. 2303651

Inhibition of hamster caries by cocoa. Caries inhibition of water and alcohol extracts of cocoa. Strålfrors A.  
Arch Oral Biol 11:323-8, Mar 66  
Clt. no. 2275304

Effect on hamster caries by dialysed, detanned or carbon-treated water-extract of cocoa. Strålfrors A.  
Arch Oral Biol 11:609-15, Jun 66  
Clt. no. 2257255

Residence time of nisin in the oral cavity following consumption of chocolate milk containing nisin. Claypool L, et al. J Dairy Sci 49:314-6, Mar 66  
Clt. no. 2303075

**CALCIFICATION, PHYSIOLOGIC**

Calcifying ability of human body fluids. Pigman W, et al. A Arch Oral Biol 11:815-24, Aug 66

Above as arrowed is an example of using the same main heading with different subheadings and making them all IM. This is a misleading policy and should be avoided.





## Subheading Restrictions: HEART & MYOCARDIUM

These notes appear in another form in the Indexing Manual, 14.18.

- △ HEART and MYOCARDIUM are frequently used interchangeably by authors. The Analyst will differentiate between them in the following way, regardless of the term used by the author either in the title or the text. If the organ is viewed as a pump, the correct heading is HEART; if viewed as tissue, the correct heading is MYOCARDIUM.
- △ Only the following Subheadings are permissible with HEART:

<ul style="list-style-type: none"> <li>*anatomy &amp; histology</li> <li>*drug effects</li> <li>*embryology</li> <li>*growth &amp; development</li> </ul>	<ul style="list-style-type: none"> <li>*microbiology</li> <li>*physiology</li> <li>*physiopathology</li> </ul>	<ul style="list-style-type: none"> <li>*radiation effects</li> <li>*radiography</li> <li>*transplantation</li> </ul>
---	--	--
- △ Only the following Subheadings are permissible with MYOCARDIUM:

<ul style="list-style-type: none"> <li>*analysis</li> <li>*cytology</li> </ul>	<ul style="list-style-type: none"> <li>*immunology</li> <li>*enzymology</li> <li>*metabolism</li> </ul>	<ul style="list-style-type: none"> <li>*pathology</li> </ul>
--	---	--
- △ Do not use the following Subheadings for these Subheadings with the concept "heart" exist in MeSH as a pre-coordinated main heading:

<ul style="list-style-type: none"> <li>*abnormalities</li> <li>*blood supply</li> <li>*injuries</li> <li>*innervation</li> <li>*surgery</li> </ul>	<ul style="list-style-type: none"> <li>this is</li> <li>this is</li> <li>this is</li> <li>this is</li> <li>this is</li> </ul>	<ul style="list-style-type: none"> <li>HEART DEFECTS, CONGENITAL</li> <li>CORONARY VESSELS</li> <li>HEART INJURIES</li> <li>HEART CONDUCTION SYSTEM</li> <li>HEART SURGERY</li> </ul>
--	---	---
- △ Articles on a foreign body of the heart will be indexed as HEART (IM) and FOREIGN BODIES (IM), not HEART DISEASES and not FOREIGN BODIES (NIM).
- △ Articles on the heart in relation to pregnancy, will be indexed as HEART (IM) and PREGNANCY (IM) or any of the pre-coordinated PREGNANCY headings or any of the concepts related to pregnancy (e.g., LABOR; ANESTHESIA, OBSTETRICAL; ABORTION).
- △ \*secretion                      do not use with either HEART or MYOCARDIUM



## SUBHEADINGS

*\*metabolism*

- △ The following words appear in titles and texts frequently . In MEDLARS they are properly covered by the subheading *\*metabolism*.

absorption	release
binding	secretion = <i>*secretion</i>
breakdown	splitting
conversion	storage
degradation	synthesis = <i>*biosynthesis</i>
distribution	transport
elimination (consider <i>*urine</i> )	turnover
excretion (consider <i>*urine</i> )	uptake
incorporation	utilization (but not the
mobilization	subheading <i>*utilization</i> )

- △ *\*metabolism* may be used with the names of organs (Category A), names of organisms (Category B), names of diseases (Category C) and names of drugs and chemicals (Category D).

PANCREAS *\*metabolism* (A)

SALMONELLA *\*metabolism* (B)

PANCREATITIS *\*metabolism* (C)

SODIUM *\*metabolism* (D)

- △ Note that concepts such as hydrolysis, oxidation, demethylation, deamination, alkylation, etc. would fall within the definition of *\*metabolism* also if taking place in tissue. If taking place in a test tube, without tissue present, the concepts would be considered "chemical" rather than metabolic and *\*metabolism* would not apply.





## SUBHEADINGS

The following titles taken from INDEX MEDICUS and elsewhere show the correct indexing of \*manpower, \*standards, \*supply & distribution and \*utilization. They will serve as examples of indexing articles of this type and may be used as models in indexing similar articles. No attempt is made below to multiple-index the other aspects of the title.

1. Medical manpower: a study in projection: HEALTH  
MANPOWER
2. Augmenting general practice in developing countries:  
GENERAL PRACTICE \*manpower
3. Staffing a hospital nursing service: NURSING \*manpower
4. Nursing manpower studies: NURSING \*manpower
5. Organizing and staffing the emergency room:  
HOSPITAL EMERGENCY SERVICE \*manpower
6. Recruiting psychiatric nurses: PSYCHIATRIC NURSING  
\*manpower
7. Personnel shortages in hospital libraries:  
LIBRARIES, HOSPITAL \*manpower
8. The shortage of hospital libraries: LIBRARIES,  
HOSPITAL \*supply & distribution
9. Availability of encephalographic equipment in Ghana:  
ENCEPHALOGRAPHY \*supply & distribution
10. The number of medical libraries in Brazil:  
LIBRARIES, MEDICAL \*supply & distribution
11. The supply of penicillin in underdeveloped countries:  
PENICILLIN \*supply & distribution
12. Alabama needs more physicians: PHYSICIANS \*supply  
& distribution
13. The disappearing Pittsburgh physician: PHYSICIANS  
\*supply & distribution
14. Physician needs for 1980: PHYSICIANS \*supply &  
distribution
15. Nursing recruitment: NURSES \*supply & distribution
16. Private duty nursing: some problems of supply and  
demand: NURSING, PRIVATE DUTY \*supply &  
distribution
17. Recruitment of minority groups to become nursing  
students: STUDENTS, NURSING \*supply & distri-  
bution
18. Availability of services for nursing care of the  
sick at home: HOME CARE SERVICES \*supply &  
distribution





19. How can nursing care be measured? NURSING CARE  
\*standards
20. New nursing home standards in Nova Scotia:  
NURSING HOMES \*standards
21. Testing incoming goods to assure hospital products  
quality: HOSPITAL EQUIPMENT AND SUPPLIES  
\*standards
22. How professional is professional nursing?  
NURSING \*standards
23. The quality of hospital care: HOSPITALS \*standards
24. Effective use of hospitals: HOSPITALS \*utilization
25. Use of hospitals by Blue Cross members: HOSPITALS  
\*utilization
26. Case loads in hospitals: HOSPITALS \*utilization

There are many headings in MeSH to cover both the specialty, field, or service and also the person associated with the field, for example, DENTISTRY but also DENTISTS; PHARMACY but also PHARMACISTS. Most of the specialties and fields, however, are covered by only a single term which will refer to both the field and the practitioner in it.

When the question of manpower arises and both the field and the personal headings exist in MeSH, follow this pattern:

DENTISTRY \*manpower BUT DENTISTS \*supply & distribution  
PHARMACY \*manpower BUT PHARMACISTS \*supply & distribution

In the above samples, both \*manpower and \*supply & distribution are available to the categories into which the main headings illustrated fall. When the need for the concept manpower arises in relation to a main heading which must stand for both the field and the practitioner, prefer \*manpower:

NATUROPATHY \*manpower NOT NATUROPATHY \*supply & distribution



## Using Subheadings

## Reminders on the use of subheadings:

1. Index only by pairing a subheading with a main heading from the same category.
2. If using the same main heading more than once with two or more subheadings, make only one main heading/subheading pair IM: make the remaining pairs of this same main heading with other subheadings NIM.
3. Familiarize yourself with the Invalid Main Heading/Subheading Combinations listed in the Indexing Manual, 12.5.
4. Restrict the use of subheadings
  - by using subheadings only as assigned by category
  - by avoiding nonsensical combinations (e.g.,  
DIGESTION \*analysis)
  - by checking the Indexing Manual
  - by checking the Integrated Authority File
  - by following announced restrictions
  - by using good sense
  - by not forcing a borderline or questionable application into a questionable interpretation



## Exercise I

Check the correct MAIN HEADING \*subheading combination

1. Liver function in gout

- |   |  |
|---|--|
| a. LIVER *physiology<br>GOUT *physiology      | c. LIVER *physiopathology<br>GOUT *physiopathology |
| b. LIVER *physiology<br>GOUT *physiopathology | d. LIVER *physiopathology<br>GOUT *physiology      |

2. Measles in four brothers

- |                        |                                   |
|------------------------|-----------------------------------|
| a. MEASLES *occurrence | b. MEASLES *familial &<br>genetic |
|------------------------|-----------------------------------|

3. Cytology of the dog lung

- |                                     |  |
|-------------------------------------|--|
| a. LUNG *cytology<br>DOGS *cytology | c. LUNG *cytology<br>DOGS *anatomy & histology |
|-------------------------------------|--|

4. Complications of hysterectomy

- |                                  |
|----------------------------------|
| a. HYSTERECTOMY *adverse effects |
| b. HYSTERECTOMY *complications   |

5. Acetate biosynthesis in Mycobacteria

- |  |
|--|
| a. ACETATES *biosynthesis<br>MYCOBACTERIUM *biosynthesis |
| b. ACETATES *metabolism<br>MYCOBACTERIUM *biosynthesis   |
| c. ACETATES *biosynthesis<br>MYCOBACTERIUM *metabolism   |

6. Nursing in gout

- |                                  |                             |
|----------------------------------|-----------------------------|
| a. GOUT *nursing                 | b. GOUT *nursing<br>NURSING |
| c. GOUT *nursing<br>NURSING CARE |                             |





7. Effect of streptomycin on E. coli
  - a. STREPTOMYCIN \*drug effects  
ESCHERICHIA COLI \*drug effects
  - b. STREPTOMYCIN \*pharmacodynamics  
ESCHERICHIA COLI \*drug effects
8. Taxonomy of ticks
  - a. TICKS  
CLASSIFICATION
  - b. TICKS \*classification  
CLASSIFICATION
  - c. TICKS \*classification
9. Classification of American occupations
  - a. OCCUPATIONS \*classification
  - b. OCCUPATIONS  
CLASSIFICATION
10. Effect of promazine on appetite disorders
  - a. PROMAZINE \*pharmacodynamics  
APPETITE DISORDERS \*drug effects
  - b. PROMAZINE \*pharmacodynamics  
APPETITE DISORDERS \*drug therapy
  - c. PROMAZINE \*therapeutic use  
APPETITE DISORDERS \*drug therapy
11. Agenesis of the skin
  - a. SKIN \*abnormalities
  - b. SKIN DISEASES \*congenital
12. Bacillus infections
  - a. BACILLUS INFECTIONS
  - b. BACILLUS \*pathogenicity
  - c. BACILLUS  
INFECTION
13. A new technic for determining blood volume
  - a. BLOOD VOLUME DETERMINATION
  - b. BLOOD VOLUME DETERMINATION \*instrumentation



## 14. Brain serotonin in gout

- |  |   |
|--|---|
| a. BRAIN CHEMISTRY<br>SEROTONIN *chemistry<br>GOUT *metabolism | b. BRAIN CHEMISTRY<br>SEROTONIN *analysis<br>GOUT *metabolism |
| c. BRAIN *analysis<br>SEROTONIN *analysis<br>GOUT *analysis    |   |

## 15. Effect of x-ray on E. coli

- |   |
|---|
| a. ESCHERICHIA COLI *radiation effects                      |
| b. ESCHERICHIA COLI<br>RADIATION EFFECTS                    |
| c. ESCHERICHIA COLI *radiation effects<br>RADIATION EFFECTS |

## 16. Effect of x-ray on gout

- |                            |   |
|----------------------------|---|
| a. GOUT *radiation effects | b. GOUT *radiation effects<br>RADIATION EFFECTS |
| c. GOUT *radiotherapy      | d. GOUT *radiotherapy<br>RADIOTHERAPY           |

## 17. Maximum safe dose of pargyline in dogs

- |                               |                         |
|-------------------------------|-------------------------|
| a. PARGYLINE *toxicity        | b. PARGYLINE *poisoning |
| c. PARGYLINE *adverse effects |                         |

## 18. Blood copper in hemosiderosis

- |  |   |
|--|---|
| a. COPPER *analysis<br>BLOOD CHEMICAL ANALYSIS<br>HEMOSIDEROSIS *blood | b. COPPER *blood<br>BLOOD CHEMICAL ANALYSIS<br>HEMOSIDEROSIS *blood |
| c. COPPER *blood<br>HEMOSIDEROSIS *blood                               |   |



19. Influenza morbidity among American school children
  - a. INFLUENZA MORBIDITY
  - b. INFLUENZA \*occurrence MORBIDITY
  - c. INFLUENZA \*occurrence
20. Heart function in normal and tuberculous women
  - a. HEART \*physiology  
TUBERCULOSIS \*physiology
  - b. HEART \*physiopathology  
TUBERCULOSIS \*physiopathology  
HEART \*physiology
  - c. HEART \*physiopathology  
TUBERCULOSIS \*physiopathology
21. Urinary corticoids in gout
  - a. GOUT \*urine  
ADRENAL CORTEX HORMONES  
\*urine
  - b. GOUT \*urine  
ADRENAL CORTEX HORMONES  
\*urine  
URINE \*analysis
22. Cortisone chemistry
  - a. CORTISONE \*chemistry
  - b. CORTISONE CHEMISTRY
  - c. CORTISONE \*analysis
23. Chest x-ray in pulmonary tuberculosis
  - a. TUBERCULOSIS, PULMONARY  
THORACIC RADIOGRAPHY
  - b. TUBERCULOSIS, PULMONARY \*radiography  
THORACIC RADIOGRAPHY
  - c. TUBERCULOSIS, PULMONARY \*radiography
24. Kidney function in kidney disease
  - a. KIDNEY \*physiology  
KIDNEY DISEASES \*physiology





- b. KIDNEY \*physiology  
KIDNEY DISEASES \*physiopathology
- c. KIDNEY \*physiopathology  
KIDNEY DISEASES \*physiopathology

25. Cardiology in the pharmacy student's curriculum

- a. CARDIOLOGY \*education  
PHARMACY \*education
- b. CARDIOLOGY \*education  
EDUCATION, PHARMACY  
CURRICULUM
- c. CARDIOLOGY \*education  
EDUCATION, PHARMACY  
CURRICULUM







## TOOLS AND REFERENCES

### Tools

minimal indispensable aids in the indexing operation, giving primarily specific indexing instructions

### Authorities

sources aiding in the indexing operation. Either definitions and explanations in the authority lead to correct indexing or its chapter and section headings themselves lead to MeSH terms

### References

sources which do not lead directly to actual headings but which are useful in clarifying information which in turn leads to correct indexing

### Dictionaries

self-explanatory: the purpose of any dictionary is to define terms or, in the case of foreign language dictionaries, to give MEDLARS indexers English equivalents





## REFERENCES AND TOOLS

In indexing most articles, the Indexer must go beyond the words of the author to another source. For the sake of convenience, we have classified these "other sources" as 1) TOOLS, 2) AUTHORITIES, 3) REFERENCE BOOKS and 4) DICTIONARIES.

You will find complete identifying information below for the sources we recommend as a minimum for satisfactory and accurate indexing. Much of this information is covered in the annual prefaces to MEDICAL SUBJECT HEADINGS and in the section in the MEDLARS INDEXING MANUAL on references and tools. They are listed below by author. The information given is to help the Indexer in ordering texts for his reference collection. Obviously not all texts and authorities will be ordered by each indexer. For example, an indexer doing psychology exclusively will probably not order Bergey, nor will the indexer doing microbiology exclusively order English and English. For anyone working in a given area, however, the sources below under AUTHORITIES are mandatory.

## TOOLS

MeSH  
Trees  
Indexing Manual  
Authority File  
Technical Notes  
List of Provisional Headings

## AUTHORITIES

- Ainsworth, G. C. and Bisby, G. R. Dictionary of the Fungi. 5th ed. Kew, Commonwealth Mycological Institute, 1961
- American Cancer Society. Manual of Tumor Nomenclature and Coding. Corrected ed. New York, 1951
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## INDEXING MANUAL

- I. Purpose
- II. General plan
- III. Indexing theory
- IV. Medical Subject Headings (MeSH)
- V. Descriptive indexing
- VI. Check Tags
- VII. Subheadings
- VIII. Indexing principles by category
- IX. Enzyme Key
- X. Geographical list
- XI. Index



## ANALYSIS OF MeSH SUBCATEGORIES

Each of the MeSH subcategories will be examined to see its coverage and to learn major indexing principles governing the approach to the specific subcategory.

These lectures on the MeSH subcategories can touch only lightly on the boundless implications of the headings and their use. The lectures can never be complete and can offer only a glimpse of what will confront the MEDLARS analyst after the training period.

Below is an outline of subjects to be discussed in each subcategory. Other subjects will be discussed as they arise as a result of questions from the class.

- A1     Distinction between EXTREMITIES for humans and animals
- A2     Distinction between bones and joints  
Distinction between BONE AND BONES and SKELETON  
Coverage of bones; joints; muscles
- A3     MeSH coverage of GASTROINTESTINAL SYSTEM  
Breakdown of BILE DUCTS; INTESTINES; TOOTH
- A4     PARANASAL SINUSES for "sinuses" or "nasal sinuses"
- A5     Definition of UROGENITAL SYSTEM and rationale  
Breakdown of KIDNEY; GONADS  
Distinction between FALLOPIAN TUBES and OVIDUCTS
- A6     Definition of ADRENAL GLANDS as adrenal cortex  
Definition of PITUITARY GLAND as anterior pituitary  
Avoidance of ENDOCRINE DISEASES as too general
- A7     Coverage of arteries and veins  
Relation to \*blood supply  
Distinction between HEART and MYOCARDIUM



- A8      Coverage of NERVOUS SYSTEM, AUTONOMIC NERVOUS  
             SYSTEM and CENTRAL NERVOUS SYSTEM  
             Relation to \*innervation  
             Treeing of neurology terms (see brochure en-  
             titled NEUROLOGY HEADINGS)
- A9      Breakdown of EYE; EAR
- A10     Distinction between EMBRYO and \*embryology  
             Indexing policy on membranes
- A11     Prohibition of BONE MARROW \*cytology and CON-  
             NECTIVE TISSUE \*cytology  
             Breakdown of CHROMOSOMES and indexing policy  
             Restriction of subheadings \*anatomy & histology,  
             \*cytology, \*pathology (Indexing Manual 14.24)
- A12     Subheading restrictions (Indexing Manual 14.26)
- A13     Breakdown of STOMACH  
             Distinction between EXTREMITIES and limbs; MAMMAE  
             and BREAST; OVIDUCTS and FALLOPIAN TUBES  
             Definition of MILK  
             WOOL as a textile
- B1      Breakdown of INVERTEBRATES; NEMATODA and TREMATODA;  
             PROTOZOA; INSECTS
- B2      General animal terms and their restrictions  
             Breakdown of MAMMALS  
             List of APES and MONKEYS (Indexing Manual 15.16)
- B3      Relation to Bergey's Manual of Determinative  
             Bacteriology  
             Breakdown of ENTEROBACTERIACEAE; MYCOBACTERIUM;  
             SALMONELLA  
             Distinction between Bacillus and bacillus
- B4      Classification of viruses  
             Genus vs common name  
             Relation to Andrewes' Viruses of Vertebrates





- B5      Classification of fungi  
          Breakdown of PLANTS  
          Catalog Section terms  
          Relation to Ainsworth's Dictionary of the  
                 Fungi
- C1      Indexing instructions for infections when the  
                 specific organism is in MeSH; is not in MeSH  
          Breakdown of PARASITIC DISEASES; STAPH(YLOCOCCAL)  
          INFECTIONS; STREPTOCOCCAL INFECTIONS; TINEA;  
          TUBERCULOSIS  
          Synonyms for common diseases (see  
                 Indexing Manual 15.10)
- C2      Definition of "neoplasms"  
          Indexing policy: mandatory coverage by organ/  
                 neoplasm pre-coordinate, by histological  
                 type, by specific site  
          Mandatory use of Tumor Manual (see p. 75a)
- C3      Breakdown of BONE DISEASES; MUSCULAR DISEASES;  
          RHEUMATISM; ARTHRITIS, RHEUMATOID; JOINT DIS-  
          EASES
- C4      Distinction between GASTROINTESTINAL DISEASES and  
          STOMACH DISEASES/INTESTINAL DISEASES  
          Coverage of tooth diseases
- C5      Distinction between RESPIRATORY TRACT DISEASES  
                 and LUNG DISEASES  
          Breakdown of RESPIRATORY TRACT DISEASES; LUNG  
          DISEASES  
          Definition of ASTHMA as "bronchial asthma";  
          PNEUMONIA as "pneumonitis"; PLEURISY as  
          "pleuritis"
- C6      Definition of UROLOGIC DISEASES as "urinary tract  
                 diseases"  
          Definition of various abortion terms and restricted  
                 use of subheadings  
          Breakdown of KIDNEY DISEASES; PREGNANCY COMPL.(ICA-  
                 TIONS)



## TUMOR MANUAL

## Exercise

Review the INDEX MEDICUS policy on indexing neoplasms as given in class and as given in the Indexing Manual, 17.4-17.8.

Using the Tumor Manual (Manual of Tumor Nomenclature & Coding of the American Cancer Society), index the following neoplasms:

1. androblastoma
2. malignant androblastoma
3. fibroblastic osteosarcoma of the femur
4. astroglioma of the frontal lobe
5. uterine fibroma
6. transitional cell carcinoma of the bladder
7. hepatoma
8. giant cell carcinoma of the forearm
9. epidermoid carcinoma in situ of the cervix
10. oat cell carcinoma of the lung



Comparison of GENITAL DISEASES, MALE and  
GYNECOLOGIC DISEASES

Definition of PROSTATIC HYPERTROPHY as  
"prostate adenoma"

- C7    Avoidance of ENDOCRINE DISEASES as too general  
      Breakdown of DIABETES MELLITUS  
      ADRENAL GLAND DISEASES as adrenal cortex diseases
  
- C8    Distinction between CARDIOVASCULAR DISEASES and  
      HEART DISEASES/VASCULAR DISEASES  
      Breakdown of HEART DISEASES  
      Breakdown of CEREBROVASCULAR DISORDERS
  
- C9    Breakdown of ANEMIA; ANEMIA, HEMOLYTIC CONGENITAL  
      Explanation of absence of leukemia from this sub-  
              category  
      Breakdown of BLOOD PLATELET DISORDERS  
      Breakdown of BLOOD COAGULATION DISORDERS and co-  
              ordination with blood factors of Subcategory  
              D7  
      Definition of HEMORRHAGIC DIATHESIS and its break-  
              down
  
- C10   Breakdown of NERVOUS SYSTEM DISEASES as with its  
              correlates in Subcategory A8  
      Breakdown of BRAIN DISEASES; CEREBROVASCULAR  
              DISORDERS; ENCEPHALITIS; EPILEPSY; MENINGITIS;  
              MOVEMENT DISORDERS  
      Indexing policy on NEUROLOGIC MANIFESTATIONS
  
- C11   Definition of HEARING DISORDERS, DEAFNESS and  
              ACOUSTIC TRAUMA  
      Specificity of otitis  
      Indexing policy on EYE MANIFESTATIONS
  
- C12   Definition and breakdown of SKIN APPENDAGE DISEASES  
      Breakdown of DERMATITIS; PIGMENTATION DISORDERS;  
      SKIN DISEASES, INFECTIOUS; TINEA
  
- C13   Indexing policy on METABOLISM, INBORN ERRORS and  
              its indentions  
      Indexing of vitamin deficiencies  
      Breakdown of DIABETES MELLITUS





- C14 Breakdown of WOUNDS AND INJURIES; relation to  
\*injuries  
Breakdown of FRACTURES  
BRAIN INJURY, ACUTE versus BRAIN \*injuries  
POISONING and relation to \*poisoning  
Inclusion of SKULL FRACTURES and FACIAL IN-  
JURIES by indexer under HEAD INJURIES  
HYPERSENSITIVITY as "allergy"  
AUTOIMMUNE DISEASES as "autoimmunity"
- C15 Indexing of diseases exclusively of animals;  
not exclusively of animals  
Definition of ZOONOSSES  
Relation to \*veterinary
- C16 Definition and breakdown of ABNORMALITIES  
Indexing policy on INFANT, NEWBORN, DISEASES  
and relation to check tag INFANT, NEWBORN  
Distinction between CHROMOSOME ABNORMALITIES  
and CHROMOSOME ABERRATIONS (G1)  
Breakdown of HEART DEFECTS, CONGENITAL
- C17 Definition of "sign", "symptom", "disease",  
"manifestation"  
Indexing policy on "general pathological pro-  
cesses" (Indexing Manual 16.15)  
Notation of C17 terms to be NIM  
Breakdown of CEREBRAL HEMORRHAGE; HEMORRHAGE  
Breakdown of COLLAGEN DISEASES  
Indexing policy on PAIN  
Definition and breakdown of SHOCK  
Indexing of FISTULA (See p. 78)
- D1 Breakdowns of popularly encountered elements  
Grouping of specific radioisotopes and indexing  
policy (See p. 79)
- D2 Note breakdowns
- D3 Definition of "function groups" or "action groups"  
Breakdown of PESTICIDES and the specific pesticide  
groups  
Breakdown of ANTI-INFECTIVE AGENTS and its specific  
groups



## FISTULA

- △ The following fistulae have been pre-coordinated for you in MeSH:

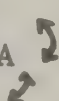
BILIARY FISTULA	RECTAL FISTULA
BLADDER FISTULA	Rectovaginal Fistula
Vesicovaginal Fistula	RECTOVAGINAL FISTULA
BRONCHIAL FISTULA	SALIVARY GLAND FISTULA
ESOPHAGEAL FISTULA	TRACHEOESOPHAGEAL FISTULA
Tracheoesophageal Fistula	URINARY FISTULA
GASTRIC FISTULA	Bladder Fistula
INTESTINAL FISTULA	VAGINAL FISTULA
Fissure in Ano	Rectovaginal Fistula
Rectal Fistula	Vesicovaginal Fistula
OROANTRAL FISTULA	VESICOVAGINAL FISTULA
PANCREATIC FISTULA	

- △ Sample indexing: Gastrojejunocolic fistula

Principle: Cover each element from the viewpoint of the anatomical site and the fistula, making each IM.

gastro + jejunocolic + fistula

X GASTRIC FISTULA  
 X COLONIC DISEASES  
 X INTESTINAL FISTULA  
 X JEJUNUM



The arrows indicate the coordinations.

- △ Exercise: Index cholecystoduodenal fistula; vesicovaginorectal fistula; esophagotracheal fistula; renopulmonary fistula; uterine fistula

- △ The Indexing Manual gives a very complete coverage of the indexing of fistulae in 16.28.1





## RADIOISOTOPES

- △ The following naturally occurring elements are always radioactive. The names are followed by their symbols.

actinium	Ac	polonium	Po
americium	Am	promethium	Pm
astatine	At	protactinium	Pa
berkelium	Bk	radium	Ra
californium	Cf	radon	Rn
curium	Cm	technetium	Tc
deuterium	D	thorium	Th
francium	Fr	tritium	T
neptunium	Np	uranium	U
plutonium	Pu		

Index the naturally radioactive elements under the name of the radioactive element only; do NOT index in addition under the heading RADIOISOTOPES.

- △ The following main headings are non-radioactive elements for which the isotopic forms have been pre-coordinated for you by MeSH:

CALCIUM ISOTOPES  
CARBON ISOTOPES  
CERIUM ISOTOPES  
CESIUM ISOTOPES  
CHROMIUM ISOTOPES  
COBALT ISOTOPES  
GOLD ISOTOPES \*  
IODINE ISOTOPES \*  
IRON ISOTOPES

MERCURY ISOTOPES  
OXYGEN ISOTOPES  
PHOSPHORUS ISOTOPES  
POTASSIUM ISOTOPES  
SODIUM ISOTOPES  
STRONTIUM ISOTOPES  
SULFUR ISOTOPES  
YTTRIUM ISOTOPES  
ZINC ISOTOPES

\*see MeSH for specifics also





Breakdown of PENICILLIN; SULFONAMIDES

- D4      Synonyms for "antineoplastic agents" as seen  
         under ANTINEOPLASTIC AGENTS in the MeSH  
         alphabetized list  
Breakdown of ANTINEOPLASTIC AGENTS  
Breakdown of IMMUNOSUPPRESSIVE AGENTS
- D5      Breakdown of AUTONOMIC DRUGS  
         Synonyms in the MeSH alphabetized list for  
         "adrenergic" and "cholinergic" entries  
Distinction between DIGITALIS (B6) and DIGITALIS  
         GLYCOSIDES
- D6      Breakdown of ANESTHETICS  
         Breakdown of BARBITURATES  
         Breakdown of TRANQUILIZING AGENTS  
RAUWOLFIA as plant and alkaloid  
ETHYL ETHER as "ether"
- D7      Breakdown of ANTICOAGULANTS and DIURETICS  
         Breakdown of BLOOD COAGULATION FACTORS  
         Indexing policy on factor deficiencies and  
         MeSH factor cross-references in the alpha-  
         betical list  
FIBRINOGEN as Factor I, PROTHROMBIN as Factor II,  
THROMBOPLASTIN as Factor III, CALCIUM as Factor IV  
         (see brochure entitled Blood Factors)  
Definition of GASTROINTESTINAL AGENTS and its  
         breakdown
- D8      Use of HORMONES and avoidance as too general  
         Indexing policy on HORMONES and SEX HORMONES  
         Indexing policy on ADRENAL CORTEX HORMONES  
Breakdown of large hormone groups
- D9      Indexing policy on enzymes and use of KEY TO THE  
         INDEXING OF ENZYMES in the Indexing Manual  
Coverage of enzymes  
Indexing instructions on enzyme precursors
- D10     Breakdown of NUCLEIC ACIDS, PROTEINS and AMINO  
         ACIDS  
Avoidance of terms GLOBULINS and ALBUMINS and  
         likely use of SERUM GLOBULIN and SERUM ALBUMIN



Breakdown of SERUM ALBUMIN and SERUM GLOBULIN  
 Breakdown of GAMMA GLOBULIN  
 Breakdown of RNA and DNA

- D11 CARBOHYDRATES as "sugar"  
 GLUCOSE \*blood as an invalid combination, indexed  
 instead as BLOOD SUGAR  
 Breakdown of CARBOHYDRATES  
 Definition of FATS and LIPIDS  
 Dietary terms  
 Vitamin coverage and correlation with vitamin  
 name given as cross-references in MeSH
- D12 Definition of BIOLOGICAL PRODUCTS  
 Breakdown and indexing policy on VACCINES  
 Breakdown of ANTIGENS and ANTIBODIES  
 Distinction between tetanus antitoxin and toxoid
- D13 Coverage of miscellaneous MeSH terms not naturally  
 falling into other D subcategories  
 Breakdown of DOSAGE FORMS and consideration of  
 all INJECTIONS terms from Category E  
 Coverage of frequently met concepts such as CON-  
 TRAST MEDIA, CARCINOGENS, radioprotective and  
 radiosensitizing agents, DYES, SOLVENTS  
 Use of these miscellaneous terms as NIM coordinates  
 Definition of DRUGS and its use in indexing with  
 subheading restrictions (Indexing Manual 18.22)
- E1 Breakdown of DIAGNOSIS, RADIOGRAPHY, ELECTRODIAG-  
 NOSIS, ENDOSCOPY  
 Diagnostic subcategory as IM or NIM (See p. 82)  
 Indexing policy on DIAGNOSIS, LABORATORY and  
 DIAGNOSIS, DIFFERENTIAL  
 Relation to subheading \*diagnosis
- E2 Inclusion of questionable terms in this "thera-  
 peutic" technic subcategory such as NUMISMATICS,  
 PHILATELY, SPORTS, NUDISM, CAMPING, etc.  
 Breakdown of INJECTIONS and relation to DOSAGE  
 FORMS in Subcategory D13  
 Distinction between CONTRACEPTIVE DEVICES and  
 CONTRACEPTIVE AGENTS  
 Coverage of RADIOTHERAPY and relation to \*radio-  
 therapy





## TECHNICS: PRINT or NON-PRINT?

In MEDLARS indexers routinely index technics used by the author in performing his studies. Each technic is accounted for by an indexer but the problem remains as to whether he will print the technic in INDEX MEDICUS or merely store the technic in the computer. The presentation below should help to clarify policy in this area.

### △ Epilepsy: review and case report

In this hypothetical article, the EEG is merely one aspect of many facets described by the author: etiology, clinical manifestations, diagnosis, physiopathology, etc. Index:

EPILEPSY (IM)  
ELECTROENCEPHALOGRAPHY (NIM)

### △ Epilepsy diagnosis

In this hypothetical article the author discusses several ways of diagnosing epilepsy, of which EEG was one. Index:

EPILEPSY \*diagnosis (IM)  
ELECTROENCEPHALOGRAPHY (NIM)

### △ EEG in epilepsy

In this hypothetical article, the aim of the author was the taking of the EEG and his presenting a discussion of EEG readings. Although EEG is fairly routine in epilepsy diagnosis, the POINT of the article was the EEG. Index:

EPILEPSY (IM)  
ELECTROENCEPHALOGRAPHY (IM)





- E3 Coverage of anesthetic procedures  
 ANESTHESIA, CONDUCTION as "nerve block"  
 PREANESTHETIC MEDICATION as "premedication"  
 Definition of HIBERNATION, ARTIFICIAL
- E4 Distinction between SURGERY and SURGERY,  
 OPERATIVE  
 Relation to \*surgery  
 Distinction between HYPERTENSION \*surgery  
 to treat hypertension and HYPERTENSION  
 coordinated with SURGERY, OPERATIVE for  
 articles on the risk of surgery in hyper-  
 tensive subjects  
 Breakdown of SURGERY, OPERATIVE  
 Definition of -ectomy  
 Indexing policy on -ectomies as surgical pro-  
 cedures or as controls in function studies  
 Definition of NEUROSURGERY as a field and  
 application in indexing  
 Definition of DELIVERY as relative to the infant  
 or obstetrician but not the mother  
 Indexing policy on TRANSPLANTATION breakdowns  
 as NIM and relation to \*transplantation  
 Indexing policy on VASCULAR SURGERY
- E5 Absence of several technics from this subcategory,  
 found in Category H  
 Indexing policy on MICROSCOPY  
 Indexing policy on EPIDEMIOLOGIC METHODS  
 Distinction between CEPHALOMETRY (living person)  
 and CRANIOMETRY (the dead)  
 Relation of EQUIPMENT AND SUPPLIES to \*instrumenta-  
 tion  
 Relation of AUTOPSY and DISSECTION to \*pathology  
 BIOPSY as NIM and relation to \*pathology  
 PHOTOMICROGRAPHY as microfilming and microphotog-  
 raphy  
 Definition of HUMAN EXPERIMENTATION
- E6 Coverage of the dental specialties and definitions



- F1 Coverage of normal psychological mechanisms and thought processes  
 Subheading limitations  
 Breakdown of EMOTIONS, BEHAVIOR, LEARNING, PERCEPTION, COGNITION, SENSATION  
 Psychology disciplines as fields or as coordinates  
 Omission of (PSYCHOLOGY) on Data Forms  
 Terms of interest in animal psychology  
 PSYCHOLOGY and PSYCHOPHYSIOLOGY as NIM concepts
- F2 Coverage of disordered psychological mechanisms and mental disorders  
 Subheading limitations  
 Breakdown of MENTAL RETARDATION, NEUROSES, PSYCHOSES, SCHIZOPHRENIA
- F3 Coverage of various specialties and diagnostic and therapeutic technics used in psychology and psychiatry  
 Subheading limitations  
 Breakdown of PSYCHOTHERAPY  
 Breakdown of PSYCHOANALYSIS
- G1 Coverage of specialties and all subjects studied in premedical school  
 Coverage of physiological processes  
 Subheading limitations  
 Distinction between -OLOGIES as referring to the field and practitioner and the organ or disease as referring to the patient  
 Disciplines as IM terms  
 Definition and use of NEUROPHYSIOLOGY  
 Distinction between VISION and VISUAL PERCEPTION, HEARING and AUDITORY PERCEPTION  
 Distinction between EMBRYOLOGY and \*embryology; between EMBRYOLOGY and EMBRYO  
 Distinction among IMMUNOLOGY, IMMUNITY and IMMUNIZATION  
 Indexing policy on genetics  
 Distinctions among the various sex terms here and in the MeSH alphabetized list



- G2      Coverage of specialties  
          Breakdown of MEDICINE and indexing policy on  
          the indentions
- G3      Subheading restrictions on \*analysis and \*pre-  
          vention & control  
          Distinction between HEAT and HEATING, LIGHT and  
          LIGHTING  
          Breakdown of COMMUNICABLE DISEASE CONTROL  
          Specificity of SEALED CABIN ECOLOGY by coordinates
- H        Absence from this category of some technics found  
          in E5  
          Chemistry disciplines as fields or coordinates  
          Indexing policy on RADIATION  
          Distinction between MOTION and MOVEMENT; MOVEMENT  
          and LOCOMOTION; LOCOMOTION and GAIT  
          Coverage and breakdown of models  
          Coverage and breakdown of TEMPERATURE  
          Definition and use of RESEARCH
- I        Distinction between RACIAL STOCKS and ETHNIC GROUPS  
          and indexing policy  
          Definition of CRIMINOLOGY and CRIME  
          Breakdown of EDUCATION and indexing policy  
          Distinction between FORENSIC MEDICINE and JURIS-  
          PRUDENCE  
          Breakdown of POPULATION  
          Definition of GOVERNMENT  
          Sociological concepts as NIM coordinates
- J        Motley coverage  
          Subheading restrictions  
          Breakdown of FOOD  
          Definition of SHELLFISH  
          Occupations as pertinent to the occupation and also  
          the worker





- K Breakdown and indexing policy on HISTORY OF  
MEDICINE  
Precoordination of MEDICINE terms  
Breakdown of RELIGION and precoordination of  
RELIGION terms  
Definition and use of HISTORY and HISTORIOGRAPHY  
Definition and use BIOGRAPHY and AUTOBIOGRAPHY
- L Coverage as applicable to Catalog Section  
Indexing policy on BIBLIOGRAPHY; DIRECTORIES;  
DICTIONARIES; NOMENCLATURE; BOOKS  
Breakdown of COMMUNICATION  
Definition of BOOKWORM
- M Coverage as named groups of persons  
Subheading limitations  
Age groups as IM terms  
Definition and use of WOMEN  
Definition and use of PATIENTS
- N1 Coverage as the type of people who use medical care  
Breakdown of VITAL STATISTICS and DEMOGRAPHY  
Breakdown of SOCIOECONOMIC FACTORS and use as  
NIM coordinate  
Indexing policy on HEALTH  
SEX FACTORS as IM and NIM
- N2 Coverage as the types of medical care services and  
of the people who give them  
Breakdown of HEALTH MANPOWER, PERSONAL HEALTH SER-  
VICES, HEALTH FACILITIES  
Educational coverage in this subcategory  
Use of \*manpower and \*supply & distribution with  
various terms
- N3 Coverage as the manner of society's involvement in  
the dispensing of medical care  
Breakdown of GOVERNMENT AGENCIES  
Breakdown of ECONOMICS, ORGANIZATIONS, INSURANCE  
Breakdown of SOCIETIES and indexing policy  
Distinction between LEGISLATION and JURISPRUDENCE



N4      Coverage as the types of administration and  
         organization in the process of providing  
         medical care  
Breakdown of PROFESSIONAL PRACTICE  
Breakdown of PROFESSIONAL-PATIENT RELATIONS  
Breakdown of ORGANIZATION AND ADMINISTRATION



## INDEXING PHILOSOPHY

The rules governing indexing policy are numerous and intricate and highly detailed. The basic indexing philosophy, however, is as neat and simple as the rules are myriad.

- An Indexer is only an indexer: he is not a physician, not a research scientist, not an author; an Indexer reports: he does not evaluate, he does not diagnose, he does not perform operations.
- An Indexer who does not understand the point of an article within 10 minutes will not index it any better after 30 or 40 minutes.
- An Indexer will learn as much about antigens for indexing purposes by indexing 40 articles on antigens as by spending 15 hours of indexing time reading about antigens.
- The article in hand is the world's best authority on that article. An accurate Indexer is the world's second best authority.
- An Indexer will provide, in general, for every clinical article to be indexed an organ, a disease affecting that organ, a cause of the disease and a treatment for it.
- An Indexer will always provide, if possible, the technic mentioned in the article whereby the subject was studied or the research or therapy was performed.
- An Indexer will always distinguish between an -ology and an organ or disease: the -ology is always the physician; the organ or disease is always the patient. They are never confused.
- An Indexer will describe the concepts or contents of any article only within the confines of MeSH.
- An Indexer will always index toward the most specific heading possible: an article on the lung is indexed as LUNG and not as RESPIRATORY TRACT.





- An Indexer can completely describe any article by a single MeSH term or by a coordination of MeSH terms:
  - by a single term: LIVER
  - by a pre-coordinated term: LIVER DISEASES (i.e., enough articles have appeared in the literature on diseases of the liver historically under LIVER to justify creating a new, pre-coordinated term LIVER DISEASES)
  - by a coordination of a main heading with a subheading: LIVER \*metabolism
  - by a coordination of a main heading with a check tag: LIVER + INFANT, NEWBORN
  - by a coordination of two main headings: AVOIDANCE LEARNING (and) RADIATION EFFECTS



# REFRACTION



Each of the titles below was either taken from published issues of INDEX MEDICUS or contrived to generate discussion in class on indexing policy.

Index each of the titles on the practice title exercises on a separate Data Form. Assume that the title truly reflects the content of the article and that the article appeared in a Depth Journal. Use as many main headings and subheadings as you feel are needed and be careful to indicate the required Check Tags, Geographic Headings, Provisionals, etc.

1. Urinary pyridoxine and urinary sodium in infantile myoclonic seizures.
2. Peptic ulcer causing agranulocytosis
3. Cerebellar biopsy in periarteritis nodosa
4. Histochemistry of experimental cerebral edema in rats
5. EEG discharges in acute cerebral arteriosclerosis
6. Electron microscopic observations on normal human pancreatic arteries
7. ACTH-induced psychoses in the light of daily 17-hydroxycorticosteroid excretion under high ACTH dosage
8. The effect of illumination and d-amphetamine on the activity of rhesus monkeys
9. Learning and set formation by normal and previously irradiated female rats
10. Chromatographic studies on tryptophan metabolism (via kynurenine) in schizophrenic patients hospitalized in Sweden
11. Urinary excretion of adrenaline, noradrenaline and other catecholamines in mental illness
12. Indications for subtotal and total hysterectomy at the Rotunda Hospital in Dublin
13. Blood serotonin in pregnancy
14. Blood serotonin in pregnancy complications
15. Plasma serotonin in measles in pregnancy
16. Serum serotonin in normal and pathologic pregnancies
17. Effect of hydrocortisone on plasma enzymes in the rat
18. Effect of hydrocortisone on erythrocyte enzymes in the rat
19. The diagnosis of gout
20. X-ray diagnosis of gout
21. The differential diagnosis of gout





22. Gout simulating osteoarthritis
23. Osteoarthritis simulating gout
24. Hyperthyroidism, thyroid adenoma and other thyroid diseases
25. Thyroid abnormalities
26. Agenesis of the thyroid
27. Eye manifestations in arthritis
28. Conjunctivitis in arthritis
29. Eye diseases in arthritis
30. Streptococcal conjunctivitis in arthritis
31. Measles causing blindness
32. Chlorpromazine causing agranulocytosis in children
33. Serum serotonin in normal and complicated pregnancy in hypophysectomized dogs
34. Cardiac metabolism of copper in myocardial infarct; its correlation with myocardial function. Comparative study of young adults and middle-aged persons
35. Effect of three types of feedback on concept formation in chronic schizophrenics



## PRACTICE TITLES

## Exercise II

1. Drive, reinforcement and personality
2. Sex differences in attitudes toward leaders' display of authoritarian behavior
3. An approach to measuring psychological tensions by means of dream associations
4. A case of hydatid cyst of the lung and pancreas in a 2-year-old child
5. Neurochemical correlates of behavior. III. Nor-epinephrine and dopamine in four parts of the brain of the pigeon during periods of atypical behavior following injection of 5-hydroxy-tryptophan
6. An unusual case of *Filaria oculi humani* infection associated with Sporozoa infection
7. Synthesis of an unidentified antibiotic substance by a streptomycete (*Streptomyces africanus*)
8. Duodeno-pancreatic injuries in children following blunt and penetrating trauma
9. Standardization of phonocardiographic terminology
10. Directory of the Ophthalmological Society of Australia
11. The influence of emotional factors on adrenal cortex function
12. HCl secretion and intestinal peristalsis after partial resection of the stomach in bleeding ulcer of the fundus in middle-aged personnel managers
13. Sex chromatin in Turner's syndrome
14. Amantadine therapy of influenza A and other respiratory viral diseases in Finnish soldiers
15. Free amino acids on human fingers: the problem of contamination in chromatography
16. Properties of ribonucleic acid isolated from alfalfa mosaic virus
17. Comparative response of the guinea pig and rabbit myocardium to isonicotinic acid hydrazide
18. Electron microscopy of cortisone-producing cells in the rat adrenal; radiocarbon studies
19. Historical note on a 19th century case report of pancreatic cystic fibrosis
20. Radiorenography in nephritis



## PRACTICE TITLES

## Exercise III

1. Sclerosis of the lungs, bile ducts and adrenal medulla
2. Changes in liver function and morphology in chronic recurrent pancreatitis
3. Changes in phosphorus compounds in the rat diaphragm; study based on P32-labelled phosphates
4. The suicide of Marilyn Monroe: a reconstructed psychodynamic study
5. Drinking and smoking habits of New York Jews, Negroes and Puerto Ricans; an epidemiological and psychological comparison
6. Follow-up study of a case of therapy with thyroid antagonists in heart disease in a 3-year-old boy
7. Who is there to be the dermatologist of the Lunar Age?
8. How can nursing care be measured in hospitals for chronic disease?
9. The physiology of auditory perception
10. Thin-layer chromatography of bile acids
11. Party-switching and authoritarianism in the 1968 elections
12. Pancreas morphology in pancreatic disease
13. Studies on the perfused rat liver. VIII. The effect of glucagon and insulin on glucose metabolism and gluconeogenesis in the liver in the presence of bicarbonates
14. Biopsy of the gastric mucosa in postoperative gastritis caused by methyl alcohol intoxication
15. Effect of excision of the adrenal medulla on fracture healing in rats; a follow-up study









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